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TRANSPORTATION MEASURE I

■ San Bernardino County Transportation Commission ■ San Bernardino County Transportation Authority
■ San Bernardino County Congestion Management Agency ■ Service Authority for Freeway Emergencies

Minute Action

AGENDA ITEM 1

Date: April 7, 2010

Subject: Information Relative to Possible Conflict of Interest

***Recommendation*:** Note agenda items and contractors/subcontractors, which may require member abstentions due to possible conflicts of interest.

Background: In accordance with California Government Code 84308, members of the SANBAG Board may not participate in any action concerning a contract where they have received a campaign contribution of more than $250 in the prior twelve months from an entity or individual, except for the initial award of a competitively bid public works contract. This agenda contains recommendations for action relative to the following contractors:

Item No.	Contract No.	Principals & Agents	Subcontractors
4	C07181-1	Vavrinek, Trine, Day & Co *Kevin Pulliam*	
6	C07001-3	Professional Communications Network *Jeff White*	
10	C08135	URS Corporation DBA, URS Corporation Americas *Brian Wynne*	Psomas *Lee Whiteley* Tatsumi and Partners, Inc. *David Tatsumi*
25		Ryder Systems, Inc. *Greg Swienton*	

Financial Impact: This item has no direct impact on the SANBAG budget.

Reviewed By: This item is prepared monthly for review by SANBAG Board and Committee members.

*

Approved
Board of Directors

Date: _____

Moved: *Second:*

In Favor: *Opposed:* *Abstained:*

Witnessed: _____

BOARD OF DIRECTORS ATTENDANCE RECORD - 2010

Name	Jan	Special Jan 20 Mtg.	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Gary Ovitt Board of Supervisors	X		X	X									
Brad Mitzelfelt Board of Supervisors	X	X	X										
Paul Biane Board of Supervisors	X	X	X	X									
Josie Gonzales Board of Supervisors	X	X	X	X									
Neil Derry Board of Supervisors	X	X	X	X									
Charley Glasper City of Adelanto	X	X	X	X									
Rick Roelle Town of Apple Valley	X	X	X	X									
Julie McIntyre City of Barstow	X	X	X	X									
Bill Jahn City of Big Bear Lake	X		X	X									
Dennis Yates City of Chino	X		X	X									
Gwenn Norton-Perry City of Chino Hills	X												
Ed Graham City of Chino Hills		X	X	X									
Kelly Chastain City of Colton	X	X	X	X									
Mark Nuaimi City of Fontana	X	X	X										
Bea Cortes City of Grand Terrace	X	X	X	X									

X = member attended meeting. * = alternate member attended meeting. Empty box = Did not attend meeting Crossed out box = not a Board Member at the time.

BOARD OF DIRECTORS ATTENDANCE RECORD - 2010

Name	Jan	Special Jan 20 Mtg.	Feb	March	April	May	June	July	Aug	Sept	Oct	Nov	Dec
Mike Leonard City of Hesperia	X	X	X	X									
Larry McCallon City of Highland	X	X	X	X									
Rhodes 'Dusty' Rigsby City of Loma Linda	X	X	X	X									
Paul Eaton City of Montclair	X	X	X	X									
Jeff Williams City of Needles	X		X	X									
Alan Wapner City of Ontario	X	X	X	X									
Diane Williams City of Rancho Cucamonga	X		X	X									
Pat Gilbreath City of Redlands	X		X	X									
Ed Scott City of Rialto	X	X	X	X									
Patrick Morris City of San Bernardino	X	X	X	X									
Jim Harris City of Twentynine Palms	X	X	X	X									
John Pomierski City of Upland	X	X	X	X									
Ryan McEachron City of Victorville	X		X	X									
Dick Riddell City of Yucaipa	X	X	X	X									
William Neeb Town of Yucca Valley	X	X	X	X									
Ray Wolfe Ex-Official Member	X		X	X									

X = member attended meeting. * = alternate member attended meeting. Empty box = Did not attend meeting Crossed out box = not a Board Member at the time.

BOARD OF DIRECTORS ATTENDANCE RECORD - 2009

Name	Jan	Feb	March	April	May	Special May 20 Mtg	June	July	Aug	Sept	Oct	Nov	Dec
Gary Ovitt Board of Supervisors	X	X		X	X	X	X	X		X	X	X	X
Brad Mitzelfelt Board of Supervisors	X			X	X		X	X	X	X	X	X	X
Paul Biane Board of Supervisors	X		X	X			X	X	X		X	X	X
Josie Gonzales Board of Supervisors	X	X	X	X	X		X		X	X	X	X	X
Neil Derry Board of Supervisors		X	X	X	X	X	X	X	X		X	X	X
Charley Glasper City of Adelanto	X	X	X	X	X		X	X	X	X	X	X	X
Rick Roelle Town of Apple Valley	X	X	X	X	X	X	X	X	X	X	X	X	X
Julie McIntyre City of Barstow	X	X	X	X	X		X	X		X		X	X
Bill Jahn City of Big Bear Lake	X	X	X	X	X	X	X	X	X	X	X	X	X
Dennis Yates City of Chino	X	X	X	X	X	X	X	X	X		X	X	X
Gwenn Norton-Perry City of Chino Hills		X	X	X	X			X	X		X	X	X
Kelly Chastain City of Colton	X	X	X	X	X	X	X	X	X	X	X	X	X
Mark Nuaimi City of Fontana	X	X	X	X	X	X	X	X	X	X	X	X	X
Bea Cortes City of Grand Terrace	*	X	X	X	X	X	X	X	X		X	X	X
Mike Leonard City of Hesperia	X	X		X	X		X	X	X		X		X

X = member attended meeting. * = alternate member attended meeting. Empty box = Did not attend meeting Crossed out box = not a Board Member at the time.

BOARD OF DIRECTORS ATTENDANCE RECORD - 2009

Name	Jan	Feb	March	April	May	Special May 20 Mtg	June	July	Aug	Sept	Oct	Nov	Dec
Larry McCallon City of Highland	X	X	X	X	X	X	X	X	*	X	X	X	X
Rhodes 'Dusty' Rigsby City of Loma Linda	X	X	X	X	X	X	X	X		X	X	X	X
Paul Eaton City of Montclair	X	X	X	X	*		X	X	X	X	X	X	X
Jeff Williams City of Needles	X	X		X	X		X	X	X	X		X	
Alan Wapner City of Ontario	X	X	X	*	X		X	X	X	X	X	X	X
Diane Williams City of Rancho Cucamonga	X	X	X	X	X	X	X	X	X	X	X		X
Pat Gilbreath City of Redlands	X	X	X	X	X	X	X	X	X	X	X	X	X
Grace Vargas City of Rialto	*												
Ed Scott City of Rialto		X	X	X	X		X	*	X	X	X	X	X
Patrick Morris City of San Bernardino	X	X	X	X	X		X	X	X	X	X	X	X
Jim Harris City of Twentynine Palms	X	X	X	X	X	X	X	X	X	X	X	X	X
John Pomierski City of Upland	X	X	X		X	X	X	X	X			X	X
Ryan McEachron City of Victorville	X	X	X	X	X	X	X	*	X	X	X	X	X
Dick Riddell City of Yucaipa	X	X	X	X	X	X	X	X	X	X	X	X	X
William Neeb Town of Yucca Valley	X	X	X	X	X	X	X	X	X	X	X		X
Ray Wolfe Ex-Official Member	Jesus Galvan	X	X	X	Basem Muallem		Basem Muallem	X	X	X	X	X	X

X = member attended meeting. * = alternate member attended meeting. Empty box = Did not attend meeting Crossed out box = not a Board Member at the time.

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TRANSPORTATION MEASURE I

■ San Bernardino County Transportation Commission ■ San Bernardino County Transportation Authority
■ San Bernardino County Congestion Management Agency ■ Service Authority for Freeway Emergencies

Minute Action

AGENDA ITEM: 3

Date: April 7, 2010

Subject: February 2010 Procurement Report

Recommendation:* Receive Monthly Procurement Report.

Background: The Board of Directors approved the Contracting and Procurement Policy (Policy No. 11000) on January 3, 1997. The Executive Director, or designee, is authorized to approve Purchase Orders up to an amount of $50,000. All procurements for supplies and services approved by the Executive Director, or his designee, in excess of $5,000 shall be routinely reported to the Administrative Committee and to the Board of Directors.

Attached are the purchase orders in excess of $5,000 to be reported to the Administrative Committee for the month of February 2010.

Financial Impact: This item imposes no impact on the FY 2009/2010 Budget. Presentation of the monthly procurement report will demonstrate compliance with the Contracting and Procurement Policy (Policy No. 11000).

Reviewed By: This item was reviewed and received by the Administrative Committee on March 10, 2010.

Responsible Staff: William Stawarski, Chief Financial Officer

*

Approved
Board of Directors

Date: _____

Moved: *Second:*

In Favor: *Opposed:* *Abstained:*

Witnessed: _____

BRD1004a-ws
ISF10

FEBRUARY 2010 REPORT OF PURCHASE ORDERS

PO Number	Vendor	Purpose	Sole Source Y/N	Amount
10-108	**Hinderliter, De Llamas & Associates**	**Quarterly analysis and reporting of Measure I Transportation Sales and Use Tax.**	**No – Per Agreement 93-079**	**$9,600.00**
			TOTAL PURCHASE ORDERS ISSUED	**$9,600.00**

BRD1004a-ws
ISF10

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TRANSPORTATION MEABURE I

■ San Bernardino County Transportation Commission ■ San Bernardino County Transportation Authority
■ San Bernardino County Congestion Management Agency ■ Service Authority for Freeway Emergencies

Minute Action

AGENDA ITEM: 4

Date: April 7, 2010

Subject: Vavrinek, Trine, Day & Co. Contract Amendment No. 1 for Auditing Services

Recommendation:* 1. Approve Amendment No. 1 to Contract No. 07-181 with the firm of Vavrinek, Trine, Day, & Co; to extend the term of the contract until June 30, 2011, and to increase the contract amount by $94,501 for a new contract total amount of $341,846.

Background: On May 2, 2007 the Board approved a three year contract with optional two one year extensions with Vavrinek, Trine, Day & Co. to provide auditing services for SANBAG. During the three years of service, the staff at Vavrinek, Trine, Day & Co. has provided SANBAG with auditing services; assistance in the preparation of the annual financial statements; continuing assistance in addressing accounting issues that arise during the year; and proactive reporting to SANBAG staff on new issues and reporting requirements as they occur.

Vavrinek, Trine, Day & Co.'s experience with local governments and transportation agencies and their knowledge of SANBAG operations is important as SANBAG continues to work towards implementing the new accounting information system.

Staff recommends that the contract for auditing services be extended through Fiscal Year 2010-2011. There will be no cost increase from the previous year.

*

Approved
Board of Directors

Date: _____

Moved: *Second:*

In Favor: *Opposed:* *Abstained:*

Witnessed: _____

BRD1004b-ws
ISF10

Financial Impact: Funding to support the contract for auditing services will be included in the proposed SANBAG FY 2010-11 Budget in tasks ISF11 Indirect and 50211000 TDA Administration.

Reviewed By: This item was reviewed by the Administrative Committee on March 10, 2010 and unanimously recommended for approval. SANBAG Counsel has approved contract as to form.

Responsible Staff: William Stawarski, Chief Financial Officer

BRD1004b-ws
ISF10

SANBAG Contract No. **C07-181-1**
by and between San Bernardino Associated Governments and Vavrinek, Trine, Day & Co.
for Auditing Services

FOR ACCOUNTING PURPOSES ONLY

X Payable ☐ Receivable	Vendor Contract # 1000127 Vendor ID 02337	Retention: ☐ Yes ____ % X No	☐ Original X Amendment

Notes:

Original Contract:	$ 247,345	**Previous Amendments**	$ 0
		Previous Amendments Contingency / Allowance Total:	$ 0
Contingency / Allowance Amount	$ 0	**Current Amendment:**	$ 94,501
		Current Amendment Contingency / Allowance:	$ 0

Contingency Amount requires specific authorization by Task Manager prior to release.

Contract TOTAL ▶ $ 341,846

* Funding sources remain as stated on this document unless and until amended by proper authority. Funding sources are those which are ultimately responsible for the expenditure.

▼Include funding allocation for the original contract or the amendment

Main Task/ Project	Level 1	Level 2	Cost Code/ Object	Grant ID/ Supplement	Funding Sources/ Fund Type (Measure I, STP, CMAQ, etc.)	Amounts for Contract Total or Current Amndmnt Amt
0101	120	000	52100	81001	Indirect - General	$ 68,284
0502	000	000	52100	69002	TDA Administration	$ 26,217
						$
						$

Original Board Approved Contract Date:	5/2/07	Contract Start: 5/2/07	Contract End: 6/30/10
New Amend. Approval (Board) Date:	4/7/10	Amend. Start: 7/1/10	Amend. End: 6/30/11

Allocate the **Total Contract Amount** or **Current Amendment** amount between **Approved Budget Authority** in the current year and **Future Fiscal Year(s) Unbudgeted Obligation.**

Approved Budget Authority ▶	Fiscal Year: ____ $ ____	**Future Fiscal Year(s) – Unbudgeted Obligation ▶**	$ 94,501

☐ Budget authority for this contract currently exists in Task No. ____ (C-Task may be used here.).
☐ A budget amendment is required. A Budget Amendment Request is attached.
X To be included in FY 10/11 Budget.

CONTRACT MANAGEMENT

Check all applicable boxes:

☐ Intergovernmental X Private ☐ Federal Funds ☐ State/Local Funds
☐ Disadvantated Business Enterprise (DBE) ☐ Underutilized DBE (UDBE)

Task Manager: William Stawarski	**Contract Manager:** William Stawarski
Task Manager Signature — Date: 3/3/10	Contract Manager Signature — Date: 3/3/10
Chief Financial Officer Signature — Date: 3/3/10	

AMENDMENT NO. 1

CONTRACT NO. 07-181

AGREEMENT BETWEEN

SAN BERNARDINO ASSOCIATED GOVERNMENTS

AND

VAVRINEK, TRINE, DAY & COMPANY

This AMENDMENT No. 1 to SANBAG Contract No. 07-181 entered into as of the seventh day of April in the year of 2010, by and between SAN BERNARDINO ASSOCIATED GOVERNMENTS, a California public agency (hereinafter "SANBAG"), and VAVRINEK, TRINE, DAY & COMPANY (hereinafter "VTD" or the "Auditor").

WITNESSETH

WHEREAS, SANBAG under Contract 07-181 desires to avail itself of the experience, sources of information, advice, assistance and facilities available to VTD; to have VTD undertake certain duties and responsibilities; and to perform certain services as the auditor on behalf of SANBAG, as provided herein; and

WHEREAS, the PARTIES desire to amend the aforesaid contract to extend the period of performance and to increase the total contract amount;

NOW THEREFORE, the parties hereto do mutually agree to amend Contract No. 07-181 as follows:

1. The period of performance for Contract No. 07-181 shall be amended to extend the duration of Contract 07-181 to June 30, 2011.

2. The not-to-exceed cost of Contract No. 07-181 shall be increased by $94,501, for a not-to exceed total contract amount of $341,846.

3. Except as amended by this amendment, all other provisions of Contract No. 07-181 shall remain in full force and effect.

IN WITNESS THEREOF, the parties hereto have caused this Amendment to be executed by their authorized representatives as of the date set forth in the first paragraph of this Amendment.

SAN BERNARDINO ASSOCIATED GOVERNMENTS

By: _____
Paul M. Eaton
President

Date: _____

Approved as to Form:

_____
Jean-Rene Basle
SANBAG Counsel

VAVRINEK, TRINE, DAY & CO.

By: _____

Date: _____

Approved by Chief Compliance Officer

_____

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TRANSPORTATION MEASURE I

■ San Bernardino County Transportation Commission ■ San Bernardino County Transportation Authority
■ San Bernardino County Congestion Management Agency ■ Service Authority for Freeway Emergencies

Minute Action

AGENDA ITEM: 5

Date: April 7, 2010

Subject: Amend Policy 10122-3 - Deferred Compensation Plan by Participating in the County of San Bernardino's 401(a) plan

Recommendation: Amend Policy 10122-3 - Deferred Compensation Plan by authorizing SANBAG to participate in the County of San Bernardino's 401(a) Plan and designating 401(a) Plan accounts as the destination for all SANBAG matches to eligible employees' deferrals.

Background: SANBAG Policy 10122-3 establishes a deferred compensation plan that provides for regular full time employees or regular part-time employees who are normally scheduled for a minimum of 40 hours per pay period.

Currently, both the employee's contribution and the SANBAG match go into a 457(b) deferred compensation plan. There is a $16,500 limit on the total amount that can be deferred annually into a 457(b) plan.

By amending this policy and participating in the County of San Bernardino's 401(a) plan, employees' deferrals would continue to be made to individual 457(b) accounts and the SANBAG match to the deferrals would be credited to individual 401(a) accounts. The main benefit is that employees may contribute more

*

Approved
Board of Directors

Date: _____

Moved: *Second:*

In Favor: *Opposed:* *Abstained:*

Witnessed: _____

BRD1004a-dab
Attachment:
BRD1004a1-dab

to their individual 457(b) accounts and are thus able to save more for their own retirement.

Financial Impact: This item will not have an impact on the approved SANBAG budget. The amount of match provided by SANBAG is not changed by this item.

Reviewed By: This item was reviewed and unanimously recommended for approval by the Administrative Committee on March 10, 2010.

Responsible Staff: Duane A. Baker, Director of Management Services

BRD1004a-dab
Attachment:
BRD1004a1-dab

ATTACHMENT #1

San Bernardino Associated Governments	Policy	10122-3
Adopted by the Board of Directors August 7, 1991	Revised	3/10/10 Draft
Deferred Compensation Plan	Revision No.	3 ~~2~~

Important Notice: A hardcopy of this document may not be the document currently in effect. The current version is always the version on the SANBAG Intranet.

Table of Contents

I. POLICY

SANBAG will provide deferred compensation, within the limits established by law, for regular full-time employees or regular part-time employees who are normally scheduled for a minimum of forty (40) hours per pay period.

II. SUPPORT STAFF EMPLOYEES

SANBAG will contribute **to the employer-sponsored 401(a) deferred compensation plan** $1 to match each $1 contribution made by the employee to the employer-sponsored **457(b)** deferred compensation plan up to a maximum combined total of 10 percent of the employee's annual salary (for example, 5 percent employee contribution and 5 percent SANBAG match).

The employee may contribute an additional amount to reach the Internal Revenue Service maximum.

III. PROFESSIONAL/ADMINISTRATIVE AND SENIOR MANAGEMENT STAFF EMPLOYEES

SANBAG will contribute **to the employer-sponsored 401(a) deferred compensation plan** $3 to match each $1 contribution made by the employee to the employer-sponsored **457(b)** deferred compensation plan up to a maximum combined total of 10 percent of the employee's annual salary (for example, 2.5 percent employee contribution and 7.5 percent SANBAG match).

The employee may contribute an additional amount to reach the Internal Revenue Service maximum.

IV. REVISION HISTORY

Revision No.	Revisions	Adopted
0	New policy adopted by the Board of Directors.	08/07/91
1	Edited as follows with no policy changes: - Changed "Association" to "SANBAG". - Revised paragraphs II and III to clarify contributions and matching by SANBAG. - Deleted par. IV. EXECUTIVE DIRECTOR. - Added REVISION HISTORY paragraph. These changes were not reviewed by the Board.	08/05/03
2	Par. I: Revised to delete "to regular full-time employees" and add provision for regular part-time employees meeting the minimum requirement of 40 hours per pay period.	06/01/05
3	**Paragraphs II and III:** • **Revised "SANBAG will contribute ... " to "SANBAG will contribute to the employer-sponsored 401(a) deferred compensation plan ..."** • **Revised " ...to the employer-sponsored deferred compensation plan" to "... to the employer-sponsored 457(b) deferred compensation plan ..."**	

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TRANSPORTATION MEASURE I

■ San Bernardino County Transportation Commission ■ San Bernardino County Transportation Authority
■ San Bernardino County Congestion Management Agency ■ Service Authority for Freeway Emergencies

Minute Action

AGENDA ITEM: 6

Date: April 7, 2010

Subject: Amendment No. 3 to Contract No. 07-001 with Professional Communications Network (PCN) for call answering center (CAC) services for both San Bernardino and Riverside County call box programs.

Recommendation:* Approve Amendment No. 3 to Agreement No. 07-001 with PCN, to extend the contract through June 30, 2011, at a cost of $105,000, for a new not-to-exceed total of $520,913.

Background: **This is an amendment to an existing Contract.** In February 2002, the San Bernardino and Riverside Service Authority for Freeway Emergencies' (SAFE) began to jointly operate a private CAC through a San Bernardino SAFE contract with PCN, that was procured on a competitive basis. Since that time, the CAC has responded to over 375,000 call box calls in the two counties, and has provided an outstanding level of service.

In the summer of 2004, the Orange County Transportation Authority released a request for proposal to seek call box CAC services. After a competitive process, the OCTA Board awarded a contract to PCN for identical services as being provided to the Inland Empire, and San Bernardino and Riverside SAFEs permitted PCN to utilize software and technology that was developed under our

*

Approved
Board of Directors

*Date:*_____

Moved: *Second:*

In Favor: *Opposed:* *Abstained:*

Witnessed: _____

BRD1004a-MCM.doc
Attachments: C0700103

contract. Because of this recent competitive process, the Board directed Staff to negotiate a contract with PCN, to continue the Inland Empire call box CAC services to coincide with the contract term of the OCTA/PCN agreement. Because of this multicounty relationship, PCN is able to quickly enhance/expand these services to include other motorist aid products and services which are developed and funded by OCTA. OCTA has elected to exercise their option to continue the agreement provided by PCN, and at this time Staff recommends to continue the PCN agreement so that it coincides with the OCTA contract term. Attached is the scope of work and budget for the additional one-year period, which begins on July 1, 2010 and ends on June 30, 2011.

It is anticipated that for Fiscal Year (FY) 2010/2011, the total Inland Empire call box calls will total 19,000 calls. There are additional funds in the contract for one-time projects as well as funds to replace antiquated computer equipment. The Riverside SAFE will reimburse the San Bernardino SAFE for approximately 38% of costs associated with this contract. An amendment to the Riverside SAFE contract follows this agenda item.

Financial Impact: Funds have been budgeted in the draft FY 2010/2011 Budget to cover expenses in this Agreement. Task Number 70210000, revenue source Department of Motor Vehicle Fees.

Reviewed By: This item was reviewed and unanimously recommended for approval by the Plans and Programs Committee on March 17, 2010. SAFE Counsel has approved this contract as to form.

Responsible Staff: Marla Modell, Air Quality/Mobility Specialist

BRD1004a-MCM.doc
Attachments: C0700103

SANBAG Contract No. **07-001-03/1000053**
by and between San Bernardino Associated Governments and Professional Communications Network (PCN)
for San Bernardino & Riverside County Call Box Call Answering Center Services

FOR ACCOUNTING PURPOSES ONLY

☒ Payable ☐ Receivable	Vendor Contract # 07-001-03/1000053 Vendor ID PCN/01621	Retention: ☐ Yes ____ % ☐ No	☐ Original ☒ Amendment

Notes:

Original Contract:	$ 330,413	**Previous Amendments**	$ 85,500
		Previous Amendments Contingency / Allowance Total:	$ ____
Contingency / Allowance Amount	$ ____	**Current Amendment:**	$ 105,000
		Current Amendment Contingency / Allowance:	$ ____

Contingency Amount requires specific authorization by Task Manager prior to release.

Contract TOTAL ▶ $ 520,913

* Funding sources remain as stated on this document unless and until amended by proper authority. Funding sources are those which are ultimately responsible for the expenditure.

▼Include funding allocation for the original contract or the amendment

Main Task/ Project	Level 1	Level 2	Cost Code/ Object	Grant ID/ Supplement	Funding Sources/ Fund Type (Measure I, STP, CMAQ, etc.)	Amounts for Contract Total or Current Amndmnt Amt
702	000	000	5577/52811	1060/22003	SAFE/DMV funds	$ 105,000
						$
						$
						$

Original Board Approved Contract Date:	5/3/06	Contract Start: 7/1/06	Contract End: 6/30/10
New Amend. Approval (Board) Date:	4/7/10	Amend. Start: 7/1/10	Amend. End: 6/30/11

Allocate the **Total Contract Amount** or **Current Amendment** amount between **Approved Budget Authority** in the current year and **Future Fiscal Year(s) Unbudgeted Obligation**.

Approved Budget Authority ▶	Fiscal Year: 0910 $ 0	**Future Fiscal Year(s) – Unbudgeted Obligation ▶**	$ 105,000

☒ Budget authority for this contract currently exists in Task No. 702 (C-Task may be used here.).
☐ A budget amendment is required. A Budget Amendment Request is attached.

CONTRACT MANAGEMENT

Check all applicable boxes:

☐ Intergovernmental ☒ Private ☐ Federal Funds ☐ State/Local Funds
☐ Disadvantated Business Enterprise (DBE) ☐ Underutilized DBE (UDBE)

Task Manager: Michelle Kirkhoff	**Contract Manager:** Marla Modell
Task Manager Signature — Date: 3-8-10	Contract Manager Signature — Date: 3/8/10
Chief Financial Officer Signature — Date: 3/8/10	

C0700103.doc

Amendment No. 3 to Contract No. 07-001

By and Between

SAN BERNARDINO SERVICE AUTHORITY FOR FREEWAY EMERGENCIES

And

PROFESSIONAL COMMUNICATIONS NETWORK

For

CALLBOX ANSWERING CENTER SERVICES FOR SAN BERNARDINO AND RIVERSIDE COUNTIES

WHEREAS, the San Bernardino Service Authority for Freeway Emergencies, hereinafter referred to as "SAFE" and Professional Communications Network, LP referred to herein as "CONTRACTOR", a California Limited Partnership, have previously entered into a contract effective July 1, 2006, wherein SAFE engaged CONTRACTOR to provide communication for motorist aid purposes using call answering center services (herein referred to as "CAC") for San Bernardino and Riverside County call boxes; which contract is hereinafter referred to as the "Contract"; and,

WHEREAS, SAFE and CONTRACTOR desire to amend the Contract to extend the Contract for one additional year for CONTRACTOR to perform the agreed upon work;

NOW THEREFORE, SAFE, and CONTRACTOR agree to amend the Contract as follows:

1. SECTION 3.2 Term. The first sentence of the first paragraph is amended to read as follows:

   The term of this Contract shall be shall be from July 1, 2006 to June 30, 2011, unless earlier terminated as provided herein.

2. Delete Exhibit B provided in the original Contract and replace with Exhibit B attached to this Amendment.

3. All other portions of this Contract shall remain in full force and effect and are incorporated herein by this reference.

IN WITNESS WHEREOF, the authorized parties have below signed and executed this Amendment to the Contract, and shall be effective on the date set forth above.

SAN BERNARDINO SERVICE AUTHORITY FOR FREEWAY EMERGENCIES

Paul M. Eaton, President

PROFESSIONAL COMMUNICATIONS NETWORK, LP

Jeff White, President

APPROVED AS TO LEGAL FORM FOR SAFE

Jean-Rene Basle, SAFE Counsel

Cost and Price Analysis Form for Contract 07-001 Amendment to FY 2010/2011

	FY 10/11
On-going Call Taking Expenses: For all incoming calls and tilt alarm calls, telephone operators, supervisors, materials, Amtelco eCreator/Infinity contract, generator upkeep, outbound phone expenses, insurance, T 1 circuit and profit. Estimated call volume: 19,000 Calls.	**$60,787**
Other Direct Costs: Other costs, not included in the cost per call rate, and are variable each month include language translation services, communication connections between the CAC Contractor and the remote message terminal locations, one time programming and computer hardware/software maintenance and component replacement. Additional funds have been included for additional work, such as CAC contractor developing and implementing adjunct services to the call box program or one-time enhancements to the current program. The CAC contractor shall obtain prior written approval from SAFE prior to incurring these types of expenses.	**$44,213**
Total CAC Contractor Amount:	**$105,000**

	SANBAG	RCTC	Total
On-going Expenses	$ 42,551	$ 18,236	$60,787
Other Work	$ 22,106	$ 22,106	$44,213
Total	**$ 64,657**	**$40,343**	**$105,000**

Governments SANBAG Working Together

San Bernardino Associated Governments

1170 W. 3rd Street, 2nd Fl, San Bernardino, CA 92410
Phone: (909) 884-8276 Fax: (909) 885-4407
Web: www.sanbag.ca.gov

TRANSPORTATION MEASURE I

•San Bernardino County Transportation Commission •San Bernardino County Transportation Authority
•San Bernardino County Congestion Management Agency •Service Authority for Freeway Emergencies

Minute Action

AGENDA ITEM: 7

Date: April 7, 2010

Subject: Amendment No. 6 to a reimbursement contract with the Riverside County Transportation Commission (RCTC) for call answering center (CAC) services.

Recommendation: Approve Amendment No. 6 to Contract No. 02-006 with RCTC for reimbursement of revenue for their share of the call box CAC services, extending the contract for one additional year through June 30, 2011. The additional one-year reimbursement is estimated to be $40,343, with a total new reimbursement agreement not-to-exceed $993,010.

Background: **This is an amendment to an existing Contract.** In February 2002, the San Bernardino and Riverside Service Authority for Freeway Emergencies' (SAFE) began to jointly operate a private CAC through a San Bernardino SAFE contract with Professional Communications Network (PCN). Since that time, PCN has responded to over 375,000 call box calls and has provided an outstanding level of service to motorists traveling within these counties. The San Bernardino SAFE has been the lead in this contract process, releasing the Request for Proposal (RFP), contracting with PCN and then seeking reimbursement from RCTC for services provided by PCN for calls generated from the Riverside County call box network.

In the summer of 2004, the Orange County Transportation Authority released an RFP to seek call box CAC services. After a competitive process, OCTA awarded a contract to PCN for identical services as being provided to the Inland Empire, and San Bernardino and Riverside SAFEs permitted PCN to utilize software and

Approved
Board of Directors

Date:

Moved: *Second:*

In Favor: *Opposed:* *Abstained:*

Witnessed: _____

BRD1004b-MCM
Attachments: R0200606

technology that was developed under our contract. Because of this recent competitive process, the Board directed Staff to negotiate a contract with PCN, to continue the Inland Empire call box CAC services to coincide with the contract term of the OCTA/PCN agreement. This contract will end on June 30th, 2010.

In a subsequent agenda item, Staff requested to extend the PCN contract for one additional year. Pending Plans and Programs' Committee and Board approval of the amended PCN contract, attached is an amendment to the RCTC Contract to extend their revenue agreement as well, for the same term as the PCN contract. RCTC's reimbursement of their share of CAC costs is based on actual costs incurred by PCN and based on actual call box calls generated from the Riverside County call box system. Other direct costs that are not related to the call taking activities are reimbursed on a 50/50 share basis.

Based on the anticipated call volume for Fiscal Year (FY) 2010/2011, RCTC's share is projected to be approximately 38% of $105,000 of the total costs, or $40,343. Please refer to the attached amendment to their agreement, to permit the San Bernardino SAFE to recover these costs from RCTC.

Financial Impact: Anticipated revenues of $40,343, as a result of this Contract, have been budgeted in the draft FY 2010/2011 Budget. Task Number 70210000.

Reviewed By: This item was reviewed and unanimously recommended for approval by the Plans and Programs Committee on March 17, 2010. SAFE Counsel has approved this contract as to form.

Responsible Staff: Marla Modell, Air Quality/Mobility Specialist

BRD1004b-MCM
Attachments: R0200606

SANBAG Contract No. **02-006-06/1000253**
by and between San Bernardino Service Authority for Freeway Emergencies (SAFE)
and Riverside County Transportation Commission for
Call Box Call Answering Center Services to the San Bernardino & Riverside County Call Boxes

FOR ACCOUNTING PURPOSES ONLY

☐ Payable ☒ Receivable	Vendor Contract # 02-006-061000253 Vendor ID RCTC/01762	Retention: ☐ Yes ____ % ☐ No	☐ Original ☒ Amendment

Notes:

Original Contract:	$ 359,251	**Previous Amendments**	$ 593,416
		Previous Amendments Contingency / Allowance Total:	$ ____
Contingency / Allowance Amount	$ ____	**Current Amendment:**	$ 40,343
		Current Amendment Contingency / Allowance:	$ ____

Contingency Amount requires specific authorization by Task Manager prior to release.

Contract TOTAL ► $ 993,010

* Funding sources remain as stated on this document unless and until amended by proper authority. Funding sources are those which are ultimately responsible for the expenditure.

▼Include funding allocation for the original contract or the amendment

Main Task/ Project	Level 1	Level 2	Cost Code/ Object	Grant ID/ Supplement	Funding Sources/ Fund Type (Measure I, STP, CMAQ, etc.)	Amounts for Contract Total or Current Amndmnt Amt
702	000	000	5577/52811	1060/62004	Local	$ 40,343
____	____	____	____	____	____	$ ____
____	____	____	____	____	____	$ ____
____	____	____	____	____	____	$ ____

Original Board Approved Contract Date:	5/3/06	Contract Start: 7/1/06	Contract End: 6/30/10
New Amend. Approval (Board) Date:	4/7/10	Amend. Start: 7/1/10	Amend. End: 6/30/11

Allocate the **Total Contract Amount** or **Current Amendment** amount between **Approved Budget Authority** in the current year and **Future Fiscal Year(s) Unbudgeted Obligation.**

Approved Budget Authority ►	Fiscal Year: 0910 $ 0	**Future Fiscal Year(s) – Unbudgeted Obligation ►**	$ 40,343

☒ Budget authority for this contract currently exists in Task No. 702 (C-Task may be used here.).
☐ A budget amendment is required. A Budget Amendment Request is attached.

CONTRACT MANAGEMENT

Check all applicable boxes:

☒ Intergovernmental ☐ Private ☐ Federal Funds ☐ State/Local Funds
☐ Disadvantated Business Enterprise (DBE) ☐ Underutilized DBE (UDBE)

Task Manager: Michelle Kirkhoff	**Contract Manager:** Marla Modell
Task Manager Signature 3-8-10 Date	Contract Manager Signature 3/8/10 Date
Chief Financial Officer Signature 3/8/10 Date	

R0200606.doc

Amendment No. 6 To Agreement No. 02-006

By and Between

SAN BERNARDINO SERVICE AUTHORITY FOR FREEWAY EMERGENCIES

And

RIVERSIDE COUNTY TRANSPORTATION COMMISSION

For

CALL ANSWERING CENTER SERVICES TO SAN BERNARDINO AND RIVERSIDE COUNTY CALL BOXES

WHEREAS, the San Bernardino Service Authority for Freeway Emergencies, hereinafter referred to as "SAN BERNARDINO SAFE" and Riverside County Transportation Commission, herein referred to as "RCTC", have previously entered into an Agreement effective July 1, 2001, hereinafter referred to as AGREEMENT, to provide communication for motorist aid purposes using call answering center services ("CAC");

WHEREAS RCTC has agreed to reimburse the SAN BERNARDINO SAFE for CAC services under AGREEMENT No. 07-001, for Riverside County call boxes; and,

WHEREAS, SAN BERNARDINO SAFE and RCTC desire to amend the AGREEMENT to extend the AGREEMENT for one additional year for Contractor to perform the agreed upon work.

NOW THEREFORE, SAN BERNARDINO SAFE and RCTC agree to amend the AGREEMENT as follows:

1. SECTION 3. TERMS, first paragraph is amended to read as follows:

   This Agreement shall commence upon July 1, 2001 and shall continue in full force and effect through June 30, 2011 unless earlier terminated as provided in this Agreement.

2. ARTICLE 5. PAYMENT. For services provided in Fiscal Year 2010/2011, Exhibit F "Cost and Price Analysis Form for Contract 07-001" shall be added, which is attached and by this reference, incorporated in and made a part of this Agreement.

3. All other portions of this Agreement which are not altered by this amendment, shall remain in full force and effect and are incorporated herein by this reference.

IN WITNESS WHEREOF, the authorized parties have below signed and executed this Amendment to the Agreement, and shall be effective on the date set forth above.

SAN BERNARDINO SERVICE AUTHORITY FOR FREEWAY EMERGENCIES	RIVERSIDE COUNTY TRANSPORTATION COMMISSION
Paul M. Eaton, President	Bob Buster, Chairman
APPROVED AS TO LEGAL FORM FOR SAFE	APPROVED AS TO LEGAL FORM FOR RCTC
Jean-Rene Basle, SAFE Counsel	Steve DeBaun, RCTC Counsel

Cost and Price Analysis Form for Contract 07-001 Amendment to FY 2010/2011

	FY 10/11
On-going Call Taking Expenses: For all incoming calls and tilt alarm calls, telephone operators, supervisors, materials, Amtelco eCreator/Infinity contract, generator upkeep, outbound phone expenses, insurance, T 1 circuit and profit. Estimated call volume: 19,000 Calls.	**$60,787**
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Total CAC Contractor Amount:	**$105,000**

	SANBAG	RCTC	Total
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Total	**$ 64,657**	**$40,343**	**$105,000**

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TRANSPORTATION MEASURE I

■ San Bernardino County Transportation Commission ■ San Bernardino County Transportation Authority
■ San Bernardino County Congestion Management Agency ■ Service Authority for Freeway Emergencies

Minute Action

AGENDA ITEM: 8

Date: April 7, 2010

Subject: High Occupancy Vehicle (HOV) Lane Access

Recommendations: *

1. Approve a change in direction for the Interstate (I) 215 HOV lane, whereby the soon to be completed two mile segment will be striped as continuous access;
2. Prior to the I 215 HOV lane striping as continuous access, Caltrans will provide to SANBAG the following written documentation:
   a. Federal Highway Administration (FHWA) approval that the I 215 HOV lanes may be changed from limited to continuous access;
   b. With Caltrans Staff support and as the lead agency, Caltrans will seek FHWA approval of the existing I 215 environmental document changing the HOV lane from limited to continuous access;
   c. SANBAG is not financially responsible for reimbursement to FHWA for the implementation of continuous access on this segment; and
   d. SANBAG is not financially responsible should there be a future change from continuous access back to limited access; and
3. Request from Caltrans written notification as to when a HOV Statewide policy will be approved and implemented.

Background: Caltrans District 8 has discussed with SANBAG Staff over the past few years, the direction of the State to transition certain HOV segments from limited access to continuous access. A two mile segment of I 215 will be opened in the early summer, and a decision by SANBAG and ultimately Caltrans as to how motorists will access this HOV lane (limited vs. continuous access) is required so the project can be striped and opened to motorists.

*

Approved
Board of Directors

Date: _____

Moved: *Second:*

In Favor: *Opposed:* *Abstained:*

Witnessed: _____

BRD1004a-MMK.doc
Attachment: BRD1004a.1-MMK

SANBAG has worked closely with Caltrans District 8 over the years to fund, design and deliver a highway transportation network that meets the mobility needs of both residents and travelers. A key component to this network is the incorporation of HOV lanes in the system, which transport two or more passengers in one vehicle and thereby improves congestion and air quality. Over the years, SANBAG has allocated over $167 million in Federal Congestion Mitigation and Air Quality Funding (CMAQ) to help build a network of 49 miles of HOV lanes in the Valley portion of the County. There are plans to construct an additional 36 miles in the near future which is a key component of the Measure I 2010-2040 Strategic Plan. This network is part of the larger Southern California carpool lane network, which accounts for more than 437 lane miles in the metropolitan area. The HOV lanes in the Southern California region are designed to allow limited access to the motorist, thereby permitting only certain locations where the motorist can cross over into the HOV lane and enter and exit the lane safely so that they do not disrupt travel in the HOV or mixed flow lanes. In Southern California, limited access is the standard; however, in Northern California, HOV lanes were constructed to allow continuous access whereby a motorist can enter and exit at any time. There is history as to why these differences in the system evolved in this manner. Needless to say, the trend for HOV lanes statewide is moving towards continuous access (as in the State Route/SR 22 HOV lane in Orange County and the recently opened lanes on the SR 60 in Riverside County).

Years ago, Caltrans Headquarters started a planning process by which to standardize operations of HOV lanes statewide, considering access issues as well as standards to occupancy (two plus vs. three plus occupancy). To date, a statewide policy/protocol has not been established. Last year, Caltrans District 8 Staff started a dialogue with SANBAG staff as to a possible change in direction for San Bernardino County in this access arena. This dialogue was brought to the forefront recently, with the realization that I 215 HOV lanes will be opening in the next couple of months, and striping the area between the HOV and mixed flow lanes will be completed as well. The FHWA direction to Caltrans is that even though this is a short segment that will be opening, because of the CMAQ funding source, the lane must be opened to the motoring public as soon as it is ready. As a result, Ray Wolfe, Caltrans District 8 Director, approached SANBAG and asked for SANBAG consideration to stripe I 215 HOV lanes not as limited access as what was planned, but as continuous access to address short term operational concerns.

There are documented advantages and disadvantages when comparing a continuous access HOV system to a limited access system, in the areas of safety, commuter acceptance, and mobility benefits. Please refer to the attached summary

of a recent study conducted by University at California, Berkley, outlining the safety benefits of a continuous access HOV system.

After much internal discussion as well as discussion at the March 11, 2010, Major Projects Committee, the following recommendations were discussed and considered:

1. It is in the State's best interest to formulate a Statewide policy on access as well as other HOV lane issues. There have already been differences in policy between northern and southern California and now there are emerging differences within the Southern California region. Given the travel patterns in this region, Statewide direction is critical and Staff would request written notification from the State as to when such a policy will be implemented.
2. Caltrans is the owner/operator of the highway system and it is important that they provide direction in this matter. Since SANBAG has funded many of these systems with CMAQ funds, SANBAG requests that Caltrans seek written determination from FHWA, that should HOV lanes designed/funded under a limited access planning situation and ultimately converted to continuous access, there is no conflict with CMAQ provisions and SANBAG is not financially responsible for reimbursing FHWA for CMAQ funds expended.
3. Should Caltrans decide to move into a continuous access direction for Southern California, and should there be a change in State or Federal policy regarding access, SANBAG would ask that Caltrans provide, in writing, that SANBAG is not financially responsible for transitioning any continuous access HOV lanes back to limited access; it would be a Caltrans financial responsibility.
4. Since I 215 is part of the larger federal interstate network, FHWA also needs to have input as to whether continuous access is acceptable to them along this route. In addition, existing environmental documents may need to be changed so that continuous access is documented.
5. SANBAG is currently studying potential for High Occupancy Toll (HOT) lanes within the County. A few of the Routes being analyzed include I 15, I 10 and SR 210. If implemented, these facilities would by their design have limited access and therefore Staff recommends that current limited access on these routes be preserved until the study is complete. Note that there are currently no plans to convert any portion of I 215 to a HOT facility.

Major Projects received this report, as well as listened to a presentation by Ray Wolfe, Caltrans District 8 Director. The Major Projects Committee directed Staff to proceed with the recommendations outlined above, and assuming Caltrans does

seek FHWA approval on the issues outlined above, the Committee agreed that the new segment of the I 215 to be opened in late Spring would best be served as a continuous access HOV lane. The Committee was also supportive of ultimately other HOV segments in the County eventually being converted to continuous access; however, agreed that a Statewide plan and consistent direction were needed before proceeding in that direction. Staff will continue to work with Caltrans in conjunction with the HOV Statewide Policy being prepared to determine which, if any, additional HOV lanes can be converted to continuous access in the County.

Financial Impact: This item has no direct impact to the approved Fiscal Year 2009/2010 Budget. Task Number 60110000.

Reviewed By: This item was reviewed and approved by the Major Projects Committee on March 11, 2010.

Responsible Staff: Michelle Kirkhoff, Director of Air Quality/Mobility Programs

ATTACHMENT

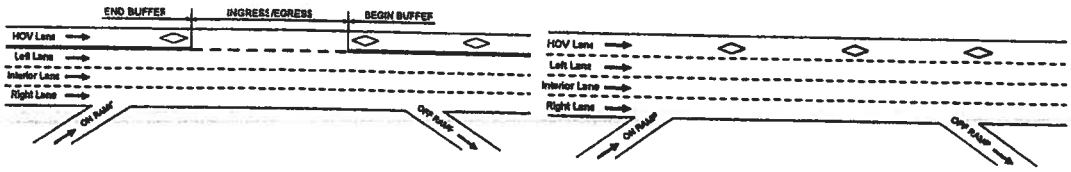
ABSTRACT

From a recent study of safety evaluation of HOV-equipped freeways, it was found that limited-access HOV lanes appear to have a safety performance disadvantage when measured by collision distribution or collision rates for the HOV lane alone and for the HOV and left lanes combined. This paper describes the work performed to verify the statistical significance of related findings. Several statistical tests were used: empirical cumulative density function (CDF), Kolmogorov-Smirnov Tests, and comparison of means based on Poisson Distributed Samples. The conclusion that continuous-access HOV lanes perform better than limited-access ones by several safety metrics is confirmed by the three separate approaches. In addition, the historical data for the HOV segments and the general-purpose lanes are extracted and compared, which offers supporting evidence for similar conclusions. The work described in this paper offers a methodology of statistical verification and can provide support to assist policy-making in selecting HOV configurations.

1. INTRODUCTION

Limited access High-Occupancy-Vehicle (HOV) facilities were designed to separate typically higher speed traffic in HOV lanes from traffic in adjacent lanes in order to reduce the risk of collisions caused by vehicles weaving between lanes of traffic traveling at different speeds. Using data from California freeways, limited access HOV and the adjacent left lanes were compared with those of continuous access HOV facilities to evaluate the safety of each, and to determine which characteristics could improve performance in either type of facility. Based on these results, limited access HOV facilities do not appear to provide increased safety, whether measured by percentage of collisions, collisions per mile, collisions per VMT, or collision severity. On the contrary, the pattern in fact suggests some trends in the opposite direction. From a strictly safety viewpoint, this suggests that constructing limited access facilities would not achieve the goal of increasing freeway safety. The results highlighted above have been reported in a separate publication and discussed in more details. [1]

While the findings from the aforementioned study offer evidence that limited-access type of facilities appears to be lagging in safety performance, a decision to favor one configuration over the other cannot be conclusive due to the necessary considerations of other performance measures for HOV operations. Furthermore, there are a variety of geometric and operational variables that may have contributed to the differences in safety performance. Thus, it is of great interest and importance that a more vigorous and robust methodology is developed to evaluate the latest findings. This paper is focused on an in-depth statistical evaluation of the differential safety performance exhibited by the two types of HOV facilities as shown in Figure 1. Several alternative statistical tests were performed to verify the findings, and a systematic method is suggested for assessing the comparative distributions from two sample groups.



(a) Limited Access (b) Continuous Access

Figure 1 HOV facility types in California: (a) limited access, and (b) continuous access

2. COMPARISON OF COLLISION PATTERNS BETWEEN TWO DIFFERENT HOV FACILITIES

Two configurations for HOV lanes—limited and continuous—are prevalent in California. Limited access HOV lanes (predominant in Southern California) have specified locations for ingress and egress HOV maneuvers, and are separated from other freeway lanes by buffer zones demarcated by pavement markings or physical barriers. Such separation is intended to facilitate smooth and safe operation of traffic flows, typically at relatively high speeds, within HOV lanes. Concerns about limited access lanes include possible impacts on traffic maneuvers due to:

- Vehicle lane-changing concentrated near ingress/egress locations, and

- Extensive vehicle lane-changing between freeway ramps and HOV access points within a fixed and often relatively short distance.

Continuous access HOV lanes (predominant in Northern California) do not include a buffer zone. They allow vehicles to enter and exit at any location, and are in operation only during peak hours. Unlike limited access lanes, HOV maneuvers on continuous access HOV lanes continuously interact with traffic on General Purpose (GP) lanes.

A study was conducted in California [1] to compare traffic collision patterns between limited access and continuous access HOV lanes. Evaluation of historical collision database was conducted to investigate the attributes accounting for such differences, if any. While some facilities utilize an actual barrier between HOV and adjacent lanes, the current study focuses only on facilities that are buffer-separated, meaning that the separation is indicated solely by pavement markings.

Table 1 List of study sites

Facility Type	County	Freeway	Postmile (PM)		Length	Peak Hours of Study
			Start PM	End PM		
Continuous	Contra Costa	I-80E	0	10	10	Weekdays 5~9AM & 3~7PM
	Contra Costa	I-80W	0	9.8	9.8	Weekdays 5~9AM & 3~7PM
	Alameda	I-880N	13.5	20.9	7.4	Weekdays 5~9AM & 3~7PM
	Santa Clara	SR-101S	26.4	39.9	13.5	Weekdays 5~9AM & 3~7PM
Limited	Los Angeles	I-105E	1.2	16.9	15.7	Weekdays 5~9AM & 3~7PM
	Los Angeles	I-105W	2.5	16.8	14.3	Weekdays 5~9AM & 3~7PM
	Los Angeles	I-210E	24.8	36.4	11.6	Weekdays 5~9AM & 3~7PM
	Los Angeles	I-405S	12.9	22.2	9.3	Weekdays 5~9AM & 3~7PM

In the aforementioned study, an extensive network of HOV lanes representing more than 60% of California HOV facilities were used in a state-wide comparison. However, in order to investigate specific geometric attributes and traffic data for thorough analysis of safety performance, study sites were filtered down to a selective list of HOV corridors where detailed geometric and traffic data were available. These corridors were selected due to their similar traffic patterns and were suggested by regional transportation engineers from California Department of Transportation (Caltrans), who were familiar with the configurations and operations of these freeway segments. It is postulated that safety performance of both the HOV lane itself and the adjacent left lane are likely to be affected most by the type of access (limited versus continuous) based on the findings from the previous study comparing safety performance of corridors before and after the addition of HOV lanes [2]. Therefore, in the current study, collision data was evaluated for HOV facilities built with the two different types of access. Table 1 lists the corridors that were included in the statistical evaluation reported in this paper. Four continuous access HOV corridors in Northern California and four limited access from Southern California in the list

were constructed before 1999 so that sufficient collision data can be used for evaluation. Note that the length of the corridor segments is expressed in miles, to be consistent with the post mile numbers contained within the TASAS database and easier for references.

All collisions (fatal, injury, and property-damage-only) that occurred within HOV and left lanes between 1999 and 2003 were included in the analysis. Since continuous access HOV lanes are in operation only during peak hours (generally, Monday–Friday, 5–9AM, 3–7PM), the comparison was limited to those hours.

To assess safety performance of HOV facilities, safety performances for both types of HOV facilities were measured by relative distribution of collisions (percent) across lanes and collision per mile per hour. By comparing these two measures together, one could approximate the collision per mile per hour across all traveling lanes. These estimates exhibited no significant or consistent differences between two types of HOV facilities which were located in two different regions. Therefore, this implies that the regional differences in safety performance, at least in the corridors examined in the present study, did not account for the differences of collision measures in HOV and its adjacent left lanes between two different types of facilities. Furthermore, they are compared by using statistical tests on the differences of performance metrics between continuous and limited access HOV lanes. Collision per mile per hour for each type of HOV facility was calculated by dividing collisions in HOV and left lanes during the five-year study period by the lane-miles and operation hours. Compared with continuous access facilities, we observed the following characteristics in limited access HOV facilities based on the data from the eight routes in Table 1:

- A higher percentage of total collisions in the combined HOV and left lanes (49% for limited access, versus 29% percent for continuous access) (i.e., differences in collision distribution across the freeway). The same pattern was observed in HOV lanes only (10% for limited access, versus 4% for continuous access) and left lanes only (39% for limited access, versus 25% for continuous access). See Figure 2.

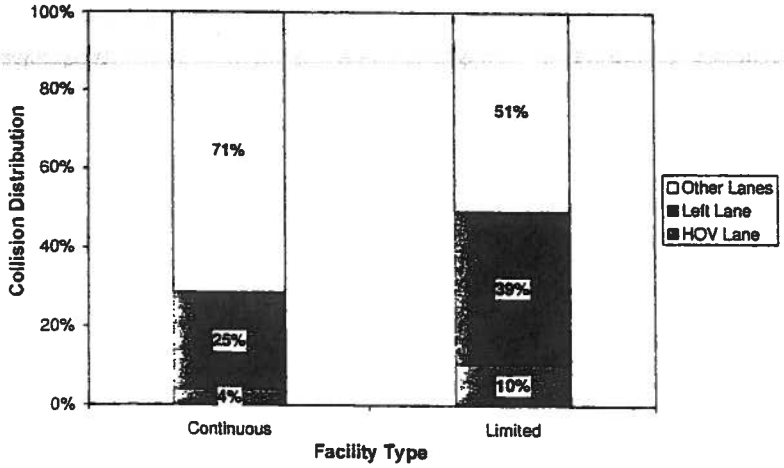


Figure 2 Comparison of Collision Distribution in HOV and Left Lanes

- A higher number of collisions per mile per hour in the combined HOV and left lanes (4.0 collisions per mile for limited access, versus 2.7 for continuous access). The same pattern was observed in HOV lanes (0.8 for limited access,

versus 0.4 for continuous access) and left lanes separately (3.2 for limited access, versus 2.3 for continuous access). See Figure 3.

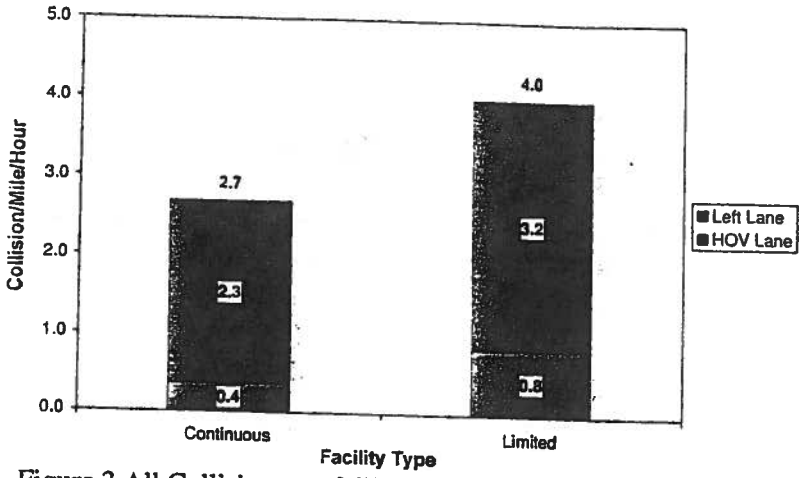


Figure 3 All Collisions per Mile per Hour in HOV and Left Lanes

- A higher number of severe collisions per mile per hour in the HOV lane (0.29 collisions per mile per hour in limited access HOV lanes, versus 0.10 collisions per mile per hour in continuous access HOV lanes), but the opposite pattern in left lanes (0.63 severe collisions per mile per hour in limited access HOV facility left lanes, versus 0.70 collisions per mile per hour in continuous access HOV facility left lanes). The combined number of severe collisions per mile per hour in HOV and left lanes together was still higher for limited access facilities. See Figure 4.

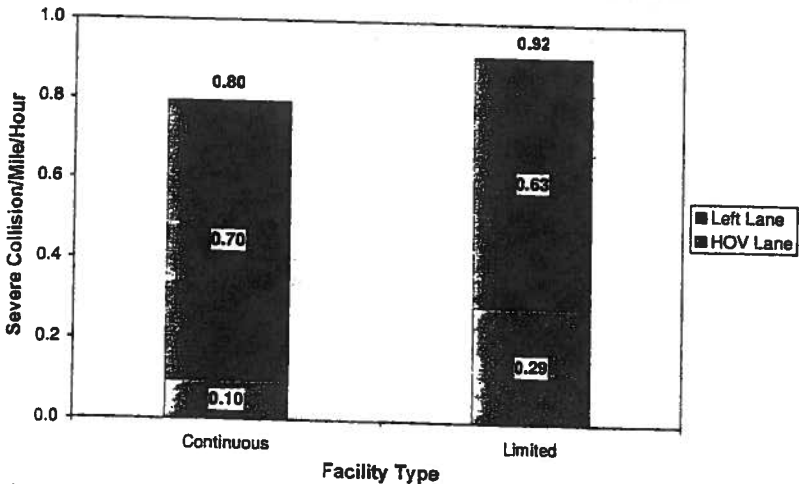


Figure 4 Severe Collisions per Mile per Hour in HOV and Left Lanes

- When traffic volumes are taken into account, and the collisions rates are re-calculated to show the numbers per million-vehicle-traveled, the observations given above are still valid to indicate that limited-access HOV facilities have a higher level of collision rates. The results are shown in Figures 5 and 6, which correspond to Figures 3 and 4 respectively.

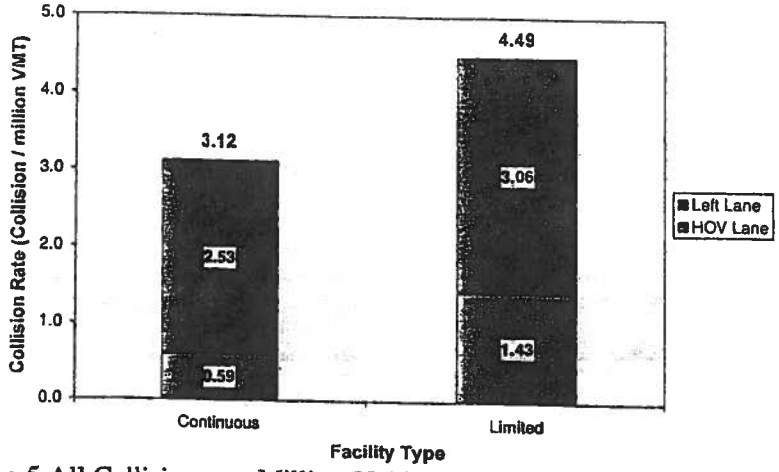


Figure 5 All Collisions per Million-Vehicle-Traveled In HOV and Left Lanes

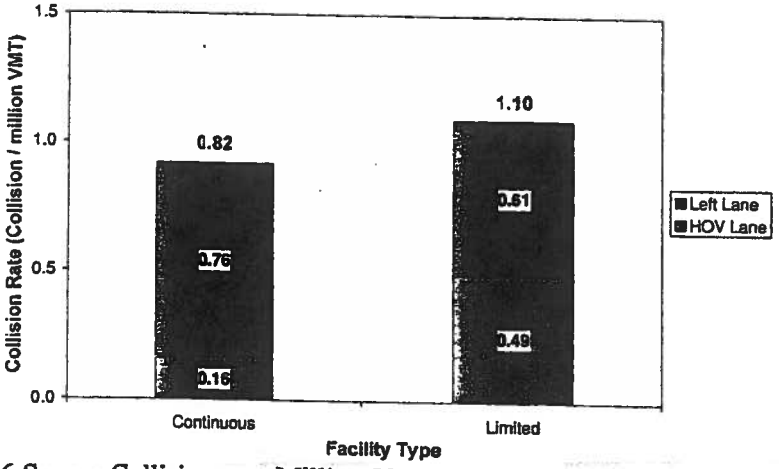


Figure 6 Severe Collisions per Million-Vehicle-Traveled In HOV and Left Lanes

In summary, when compared with HOV lanes in continuous access facilities, HOV lanes in limited access facilities experienced:

- A higher percent of collisions compared with other lanes,
- A higher number of total collisions per mile per hour, and
- A higher number of severe collisions per mile per hour.
- The collision rates measured by traffic volume (per million vehicles travelled) offer the same differential in performance.

The differential for left lanes was somewhat different from the pattern for HOV lanes. Compared with left lanes in continuous access facilities, left lanes in limited access facilities had

- A higher percentage of collisions,
- A higher collision rate, but
- A ***lower*** crash rate of severe collisions.

2. STATISTICAL SIGNIFICANCE OF DIFFERENCES BETWEEN TWO HOV FACILITIES

In this section, several approaches for evaluating the statistical significance of the findings mentioned in the previous section will be introduced and the results demonstrated.

3.1. Empirical Cumulative Density Function (CDF) of Collisions on HOV and left lanes

Empirical CDF is a cumulative density function which describes the probability distribution of a random variable X less than a given value, x, directly from the data rather than theoretical functions. Empirical CDFs of collisions were constructed through the following data generation process.

(i) Within the TASAS database, freeways are partitioned at the location where geometric features change such that within the segment, geometric features are homogeneous within each segment. This segmentation scheme is maintained in the process of extracting collision records for the purpose of evaluation here.

(ii) Collisions are identified as property-damage-only (PDO) or severe (fatal and injury) to be separated into two data sets. This is based on the consideration that PDO and severe collisions are of different criticality levels, which may have resulted from different causal factors and may offer distinct characteristics in statistical analysis.

(iii)The collisions records ***in both HOV and left lanes*** for all segments were used to calculate the collisions per unit distance, for which the unit of Mile is used so that the values are compatible with the prevalent measures used in historical TASAS studies.

(iv)The 5-year historical data in the period of 1999-2003 for limited-access and continuous-access facilities are processed and used to construct two empirical distribution curves, expressed in cumulative density functions. (CDF) This period of time window was selected to be consistent with all data sources that provide detailed collision, traffic, and configuration information for the selected HOV corridors.

(v) Empirical CDF is constructed by using Kaplan-Meier method. [3] Kaplan-Meier method (also called product-limit method) is originally developed to estimate survival functions especially when the sample size varies during the observation. In the present study, the number of freeway segments, the sample size, is invariant such that Kaplan-Meier method generates equivalently the empirical distribution.

The application of the Kaplan-Meier method for this study is described as follows. Let C be the random variable that measures the collision per mile and $S(c)$ be the probability that a segment of freeways has a certain collision per mile exceeding c. For a freeway segment from the population of size N, let the observed collision per mile less than the maximum collision per mile of N freeway segments be c_i. Corresponding to each c_i, n_i is the number of freeways segments that have the collisions per mile, c_i. The Kaplan-Meier estimator is the nonparametric maximum likelihood estimate of $S(c)$, which has a product of the form;

$$S(c) = \prod_{c_i \le c} \frac{N - n_i}{N} = P[C > c]$$

Consequently, cumulative distribution function, F(c), can be derived by using S(c).

$$F(c) = P[C \le c] = 1 - P[C > c] = 1 - S(c)$$

(vi) Figure 7 shows an example of the CDF of severe collisions for two types of facilities. The horizontal axis represents the number of collisions per mile, and the vertical axis indicates the value of cumulative percentage of all segments with a specific number of collisions. For example, the blue curve for limited access has a value of 0.9 corresponding to the horizontal axis at x=1. This means that 90 percent of limited-access segment has no severe collisions during the period of 1999 to 2003.

Figure 7 depicts the cumulative distribution of severe collisions for two types of HOV facilities and it reveals that:

- Approximately 5% of continuous-access HOV lane segments have one or more severe collisions per mile.
- Approximately 10% of limited-access HOV lane segments have one or more collisions per mile.

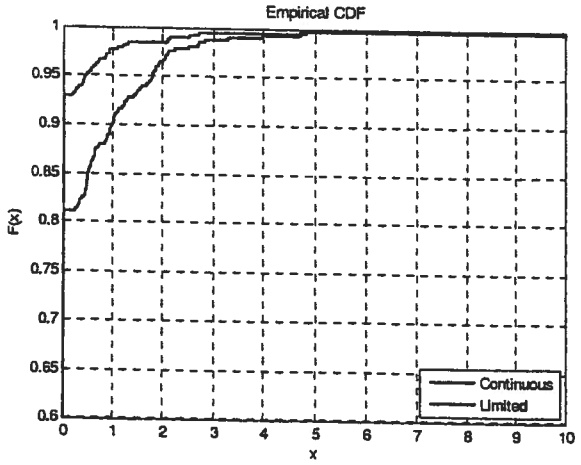


Figure 7 HOV Severe Collisions Empirical Cumulative Distribution Function (CDF)

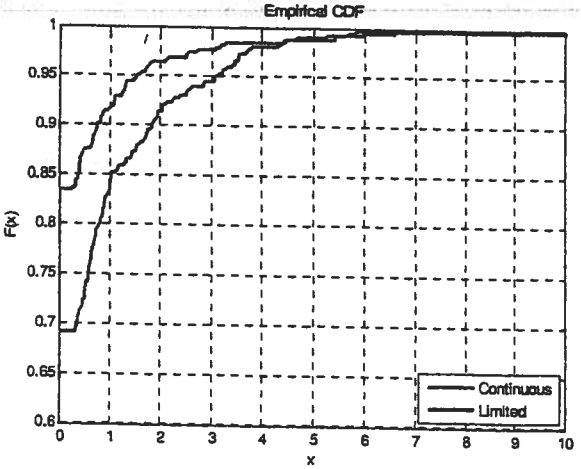


Figure 8 HOV PDO collisions Empirical Cumulative Distribution Function (CDF)

Figure 8 depicts the cumulative distribution of PDO collisions for two types of HOV facilities, and it reveals that:

- Approximately 8% of continuous-access HOV lane segments have one or more PDO collisions per mile.
- Approximately 15% of limited-access HOV lane segments have one or more PDO collisions per mile.

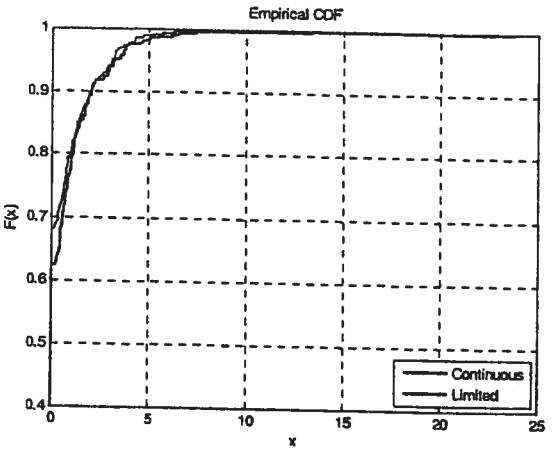


Figure 9 Left severe collisions Empirical Cumulative Distribution Function (CDF)

Figure 9 depicts the cumulative distribution of severe collisions for the left lanes with two types of HOV facilities, and it reveals that:

- Approximately 32% of continuous-access left lane segments have one or more PDO collisions per mile.
- Approximately 37% of limited-access left lane segments have one or more PDO collisions per mile.
- In the higher collision per mile per hour region on the right tail, continuous access left lanes show higher probability than limited access left lanes. This implies that there are more segments with low collision per mile per hour in the limited-access group but more segments with high collision per mile per hour in the continuous-access group. Such distributional difference explains the fact found in Section 2, higher severe left collisions per mile per hour in continuous access.

Figure 10 depicts the cumulative distribution of PDO collisions for the left lanes with two types of HOV facilities, and it reveals that:

- Approximately 45% of continuous-access HOV lane segments have one or more PDO collisions per mile.
- Approximately 60% of limited-access HOV lane segments have one or more PDO collisions per mile.

The CDF distribution graphs above illustrate the comparative performance of HOV and Left lanes in two different types of access configurations. Based on a review of the CDFs, the following conclusions can be made:

- A higher percentage of limited-access HOV lanes have one or more severe or PDO collisions per mile than those of continuous-access lanes.

- On average, this implies that the collision per mile numbers will be higher in limited-access HOV lanes than continuous-access HOV lanes.
- This phenomenon, while expressed in a different manner, is consistent with the results given in the previous sections for a selective set of corridors under detailed-analysis.

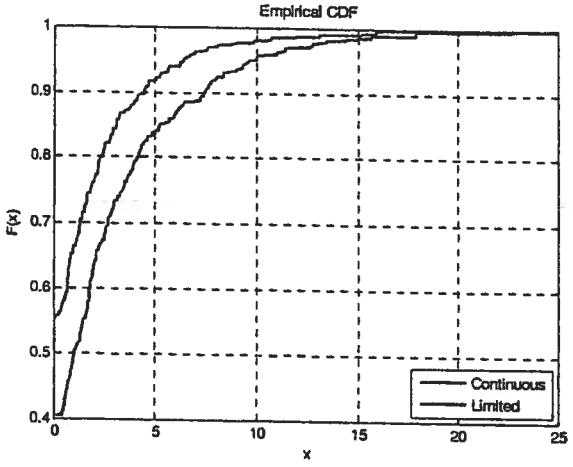


Figure 10 Left PDO collisions Empirical Cumulative Distribution Function (CDF)

3.2. Statistical Comparison of CDF Based on Kolmogorov-Smirnov Tests

The Kolmogorov-Smirnov test (K-S test) is a goodness of fit test used to examine the statistically significant difference between two probability distributions based on finite samples. [4, 5] The test is nonparametric in the sense that no assumption is made concerning the distribution underlying the sample data, while it can sensitively measure the differences in both location and shape of the empirical CDFs of the two sample groups. The test is applicable to compare each pair of distributions from two different HOV facilities.

To describe the application of K-S test, we can begin by stating the null hypothesis. $F_C(c)$ and $F_L(c)$ are two empirical CDFs from continuous and limited access HOV facilities, respectively. The null and alternative hypotheses:

H_0: $F_C(c) = F_L(c)$

Versus

H_A: $F_C(c) \neq F_L(c)$ or $F_C(c) > F_L(c)$ or $F_C(c) < F_L(c)$

The test statistic, D, is derived by taking the maximum absolute difference over the value of c between two empirical CDFs, $F_C(c)$ and $F_L(c)$. Graphically, Equation (1) can be interpreted as maximum vertical displacement between two distributions in Figures 7-10.

$$D = \max_c |F_C(c) - F_L(c)| \qquad \text{Eq. (1)}$$

Comparing D against a critical value derived from the confidence level, α, and the number of samples from each group, one can determine whether to reject the null hypothesis or not.

Table 2 summarizes the results of K-S test of each collision type between continuous and limited access HOV facilities with three different null hypotheses. The "Reject" and "Accept" given in the table is determined with respect to the null hypothesis. In other words, the "Reject" in the cell indicates rejecting the null hypothesis H_0 and accepting the alternative hypothesis, H_A and "Accept" means that the test accepting the null hypothesis, H_0 against the alternative hypothesis, H_A.

Except for the left-lane severe collision comparison, all the K-S test results lead to the conclusion that $F_C(c)$ is not equal to $F_L(c)$ and $F_C(c)$ is greater than $F_L(c)$. The conclusion that $F_C(c)$ is greater than $F_L(c)$ means that $F_C(c)$ has higher cumulative probability density than $F_L(c)$ at c. Compared to limited access HOV facilities, therefore, it is implied that fewer numbers of freeway segments from the continuous-access group has collision per mile per hour higher than c. This statistical test confirms the findings summarized in Section 2.

Table 2 Hypothesis test at 5% confidence level

	H_A: $F_C(c) \neq F_L(c)$	H_A: $F_C(c) > F_L(c)$	H_A: $F_C(c) < F_L(c)$
HOV Severe Collisions H_0: $F_C(c) = F_L(c)$	Reject	Reject	Accept
HOV PDO Collisions H_0: $F_C(c) = F_L(c)$	Reject	Reject	Accept
Left Severe Collisions H_0: $F_C(c) = F_L(c)$	Accept	Accept	Accept
Left PDO Collisions H_0: $F_C(c) = F_L(c)$	Reject	Reject	Accept

3.3 Statistical Comparison of Means from Two Poisson Distributed Samples

In this section, the differences in safety performance measured in Section 2 were compared with statistical tests based on an approached developed for two Poisson variables. Test statistics were derived for both distribution and collision per mile per hour comparisons.

3.3.1 Statistical test for the differences between collision distributions

Let C_C and C_L denote the numbers of collisions observed in a specific lane in two independent sets of C and L Bernoulli trials (i.e. total collisions across lanes), respectively. In the analysis, all collisions that occurred in continuous and limited access HOV facilities are considered to be C and L, where p_C and p_L represent the true collision distribution associated with each set of trials (i.e. total collisions across lanes). Let $p_e = \frac{C_C + C_L}{C + L}$ and define the test statistic:

$$z = \frac{\frac{C_C}{C} + \frac{C_L}{L}}{\sqrt{\frac{p_e(1-p_e)}{C} + \frac{p_e(1-p_e)}{L}}} \sim N(0,1)$$

Using the test statistic, the null hypothesis, H_0, at α significance level against one-sided alternative, H_A, can be performed ($H_0 : p_C = p_L$ versus $H_A: p_C < p_L$). The hypothesis H_0 is rejected at the α level of significance level if $Z \geq z_{1-\alpha}$, where $\Phi(z_\alpha) = \alpha$. [6]

The statistical tests were performed on each pair of collision distributions in Figure2 and the results are summarized in Table 3. The statistical test rejects all the null hypotheses and confirms the differences in distributions between continuous and limited access HOV lanes at 95% confidence level.

Table 3 Hypothesis test at 5% significance

	$H_A: p_C \neq p_L$	$H_A: p_C > p_L$	$H_A: p_C < p_L$
HOV Total Collisions $H_0: p_C = p_L$	Reject	Reject	Accept
Left Total Collisions $H_0: p_C = p_L$	Reject	Reject	Accept
Other Total Collisions $H_0: p_C = p_L$	Reject	Accept	Reject

3.2.2 Statistical test for the differences between collisions per mile per hour

It is assumed that collisions occurred in continuous and limited access HOV facilities follow two different Poisson processes. In the analysis, these two Poisson processes were observed for fixed mile-hours, s_C and s_L, different in continuous and limited access HOV lanes. Let C_C and C_L represent the number of collisions observed within s_C and s_L respectively. Then, the expected collision per mile per hour can be estimated for both facilities as $\lambda_C = C_C / s_C$ and $\lambda_L = C_L / s_L$. Based on these assumptions, we can derive a test statistic, which is asymptotically normally distributed.

$$Z = \frac{s_C \cdot C_L - s_L \cdot C_C}{[s_L \cdot s_C \cdot (C_C \times C_L)]^{1/2}} \sim N(0,1)$$

Table 4 Hypothesis test at 5% confidence level

	$H_A: \lambda_C \neq \lambda_L$	$H_A: \lambda_C < \lambda_L$	$H_A: \lambda_C > \lambda_L$
HOV Severe Collisions $H_0: \lambda_C = \lambda_L$	Reject	Reject	Accept
HOV PDO Collisions $H_0: \lambda_C = \lambda_L$	Reject	Reject	Accept
Left Severe Collisions $H_0: \lambda_C = \lambda_L$	Accept	Accept	Reject
Left PDO Collisions $H_0: \lambda_C = \lambda_L$	Reject	Reject	Accept

Since the differences between two collisions per mile per hour are of our interest, tests of the null hypothesis, $H_0 : \lambda_C = \lambda_L$ at α significance level was conducted against the three alternative hypotheses, either $H_A: \lambda_C < \lambda_L$, $H_A: \lambda_C > \lambda_L$ and $H_A: \lambda_C \neq \lambda_L$. The hypothesis H_0 is

rejected at the α level of significance level by comparing the test statistic with standard normal distribution. [6, 7] The statistical tests were also conducted for all the differences between continuous and limited access HOV lanes shown in Figure 3 and 4 and the results are summarized in Table 4. The statistical test rejects all the null hypotheses and confirms the differences in collision rates between continuous and limited access HOV lanes at 95% confidence level.

4. SAFETY PERFORMANCE OF GENERAL-PURPOSE LANES ALONG HOV CORRIDORS

In this section, historical collision data on the genera-purpose (GP) lanes along the eight HOV corridors used for the study are extracted to be compared to the safety performance of HOV with different access types. For the purpose of illustrations below, the data from the 3-year period of 2003-2005 were used. The freeway corridors were divided into segments, based on their geometric features such as lane numbers and shoulder configurations. The number of collisions that occurred on each segment are totaled and divided by the length of the segments, resulting in a collision rate measured by number of collisions per mile.

4.1 Continuous Access HOV Corridors

Table 5 Segments of Continuous Access HOV Corridors

Number of Segments	Route and Direction	Number of Segments
Santa Clara County	I-101 SB	90
Alameda County	I-880 NB	60
Contra Costa County	I-80 WB	121
Contra Costa County	I-80 EB	122
Total Number of Segments		393

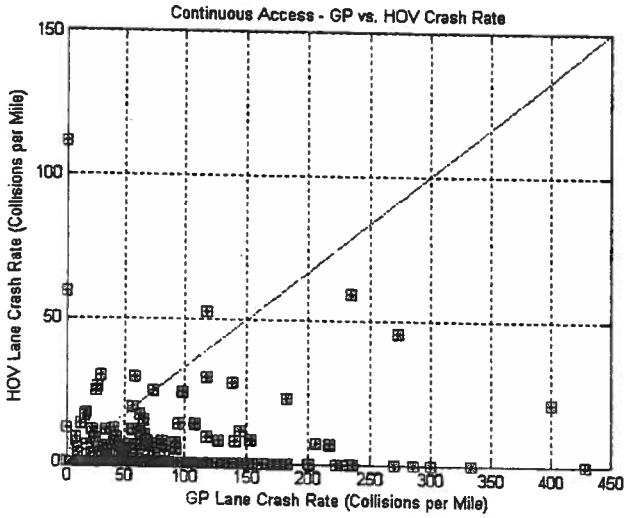


Figure 11 Collisions per Mile of HOV versus GP Lanes with Continuous-Access

Table 5 lists the number of segments that were extracted from the continuous-access corridors. The corresponding HOV and GP collision rates are plotted in Figure 11. Note

that the scale for x- and y-axes are set different at a ratio of 3 to 1. For most of the segments, there are 3-4 GP lanes versus one HOV lane. The red line represents an approximate boundary line of equivalence rates for GP and HOV lanes. In Figure 11:

- There are a large number of data points with zero values of crash rates for the HOV lane alone.
- There are more points located on the lower or right side of the boundary line, implying that the HOV lane is generally safer than the GP lanes.
- There are situations where either HOV or GP have disproportionally high collision rates than its counterpart for the same segment.
- There are also a selective set of segments where both HOV and GP are both higher when compared to other segments. These segments deserve further investigation to understand the contributing factors.

4.2 Limited Access HOV Corridors

Table 6 Segments of Limited Access HOV Corridors

Number of Segments	Route and Direction	Number of Segments
Los Angeles County	I-210 WB	119
Los Angeles County	I-405 SB	80
Los Angeles County	I-105 EB	114
Los Angeles County	I-105 WB	105
Total Number of Segments		418

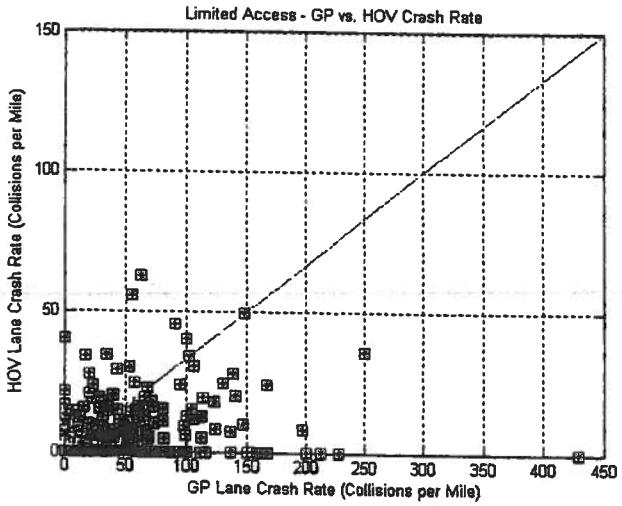


Figure 12 Collisions per Mile of HOV versus GP Lanes with Continuous-Access

Table 6 lists the number of segments that were extracted from the limited-access corridors. The corresponding HOV and GP collision rates are plotted in Figure 11, with the scale for x- and y-axes set differently at a ratio of 3 to 1 for the same reason mentioned above. The red line represents an approximate boundary line of equivalence rates for GP and HOV lanes. It can be observed from Figure 12 that:

- The four observations stated above for continuous-access facilities still apply.
- However, there are more data points on the upper side of the boundary line in Figure 12 than Figure 11. This implies that the safety performance of limited-access HOV

lanes is relatively poor. This again confirms the conclusions that were reached in previous sections.

4.3 Position of Segments Relative to Ingress/Egress in Limited Access HOV Corridors

One significant design feature in limited-access HOV facilities is the placement and length of ingress/egress areas, where traffic is allowed to enter and exit. In the current HOV safety study, it has also been found that some collision concentration locations on freeways are near the ingress/egress or transition areas. Therefore, it is of great interests and relevance to inspect the relationship between the collision rates of freeway segments and its distance to the traffic-transition locations.

The data samples for limited-access HOV corridors used in Section 4.2 are further denoted with two parameters:

- Distance from transition: the mid point of the segment to the last transition area upstream. If the distance is greater than 4 miles, the value is set to 10 as this parameter becomes non-critical with diminishing influence from the transition areas.
- Distance to transition: the mid point of the segment to the first transition area downstream. If the distance is greater than 4 miles, the value is set to 10.

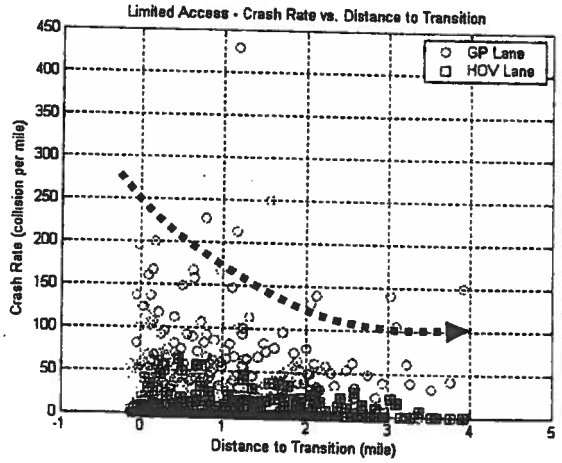


Figure 13A Collision Rates versus Distance to Transition

Figures 13A and 13B show a scatter plot of all data points for distance-to-transition and distance-from-transition respectively. These two graphs reveal several interesting reservations:

- More data points are clustered in the regions that are closer to the transition area. In other words, the closer the segment is to a transition area, the more likely it is to have a higher crash rate.
- The negative effect caused by the closeness to transition areas gradually diminishes as the distance becomes greater, shown by the two arrowed curves in the figures.
- The transition should not be expected to have residual effects for a long distance, therefore those segments with higher crash rates located further away are likely to be associated with other factors.

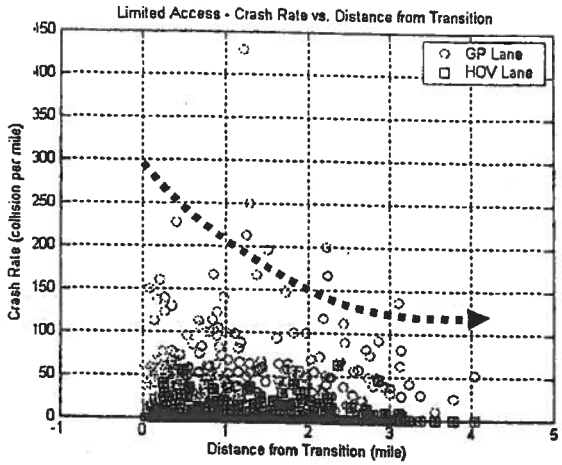


Figure 13B Collision Rates versus Distance from Transition

5. CONCLUSION

From a recent study of safety evaluation of HOV-equipped freeways, it was found that limited-access HOV lanes appeared to have a safety performance disadvantage when measured by collision distribution or collision rates for the HOV lane alone and for the HOV and left lanes combined. In order to further assess the significance of these findings and to assist policy-making in selecting HOV configurations, it is important that the performance differentials between two types of HOV facilities are verified vigorously.

This paper describes the procedures of using several statistical tests to validate the results. The approaches include the use of empirical cumulative density function (CDF), Kolmogorov-Smirnov Tests, and comparison of means based on Poisson Distributed Samples. The findings that continuous-access HOV lanes perform better than limited-access ones by several safety metrics are verified by these different approaches. In addition, the historical data for the HOV segments and the general-purpose lanes are extracted and compared. It also revealed similar observations with the same conclusion.

The phenomenon of certain segments possessing non-ideal safety performance can be complex as there are a variety of geometric and operational variables that may have contributed to the differences in safety performance. In-depth investigation of collision concentration locations should be conducted to examine individual cases more thoroughly. The locations of ingress/egress areas appear to have a strong correlation with the crash rates of freeway segments for HOV and GP lanes both. The placement of access areas and their position relative to freeway ramps and junctions is another area of study that deserves greater attention. These remain topics of future studies.

ACKNOWLEDGEMENTS

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California, in cooperation with the State of California Business, Transportation and Housing Agency, Department of Transportation. The contents of this paper reflect the views of the authors, who are responsible for the facts and accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the State of California.

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TRANSPORTATION MEASURE I

■ San Bernardino County Transportation Commission ■ San Bernardino County Transportation Authority
■ San Bernardino County Congestion Management Agency ■ Service Authority for Freeway Emergencies

Minute Action

AGENDA ITEM: 9

Date: April 7, 2010

Subject: Congestion Management Program Cost Allocation

Recommendation:* 1. Approve the cost allocation schedule for the Congestion Management Program (CMP) for 2008/2009 included in Attachment 1; and

2. Approve invoicing of Mountain/Desert jurisdictions.

Background: Expenses related to the Congestion Management Program for 2008/2009 have been compiled and allocated between the Valley and the Mountain/Desert subareas. In 2008/2009, CMP expenses were charged to the following tasks:

20309005 CMP General	20309040 CMP Morongo Basin
20309010 CMP North Desert	20309050 CMP Victor Valley
20309020 CMP Colorado River	20309060 CMP Valley
20309030 CMP Mountains	

Task No. 20309005, Congestion Management Program General, accumulates expenses related to the general activities and updates of the countywide CMP program. The attached allocation schedule distributes charges from Task No. 20309005 among the Valley and Mountain/Desert jurisdictions on a per capita basis. Task Nos. 20309010 through 20309060 accumulate expenses

*

Approved
Board of Directors

Date: _____

Moved: *Second:*

In Favor: *Opposed:* *Abstained:*

Witnessed: _____

BRD1004e-DAB

related to CMP activities in specific geographic subareas. Expenses in the Mountain/Desert tasks are divided equally among the jurisdictions within each subarea. This formula provides for the sharing of general and administrative expenses among all jurisdictions and the allocation of expenses related to specific subareas to be born equally among the affected jurisdiction of a subarea.

Valley Measure I Transportation Management and Environmental Enhancement (TMEE) Funds are used for expenses relative to CMP activities in the Valley subarea. Mountain/Desert jurisdictions are individually invoiced for their share of CMP expenses, as there is currently no fund similar to TMEE in the Mountain/Desert to fund expenses related to the CMP.

This item includes three attachments. Attachment 1 provides the 2008/2009 Cost Allocation Schedule for the Mountain/Desert jurisdictions, which documents each jurisdiction's share of CMP costs to be reimbursed. Attachment 2 provides the 2007/2008 Cost Allocation Schedule for Mountain/Desert jurisdictions, which was approved by the Board of Directors on April 1, 2009. The third attachment provides an overview of the CMP and its role within San Bernardino County.

Financial Impact: This item will result in reimbursement to the Valley Measure I Traffic Management and Environmental Enhancement Fund for expenses that have been incurred on behalf of Mountain/Desert jurisdictions during 2008/2009 relative to CMP activities. Expenditures for the CMP program are consistent with the adopted SANBAG budget.

Reviewed By: This item was reviewed and unanimously recommended for approval by the Mountain/Desert Committee on March 26, 2010.

Responsible Staff: Duane Baker, Director of Management Services

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Attachment 1

CONGESTION MANAGEMENT PROGRAM COSTS 2008/2009

COST ALLOCATION

JURISDICTION	TN 2030905	TN 20309010-20309050	TOTAL
COLORADO RIVER SUBAREA			
Needles	$90.71	$44.60	$135.31
San Bernardino County	$37.16	$44.60	$81.76
MOUNTAINS SUBAREA			
Big Bear Lake	$97.95	$144.41	$242.36
San Bernardino County	$732.01	$144.41	$876.42
MORONGO BASIN SUBAREA			
Twentynine Palms	$482.80	$871.63	$1,354.42
Yucca Valley	$332.58	$871.63	$1,204.21
San Bernardino County	$401.40	$871.63	$1273.03
NORTH DESERT SUBAREA			
Barstow	$379.15	$1,136.03	$1,515.18
San Bernardino County	$559.43	$1,136.03	$1,695.46
VICTOR VALLEY SUBAREA			
Adelanto	$442.60	$3,056.35	$3,498.95
Apple Valley	$1,093.95	$3,056.35	$4,150.30
Hesperia	$1,380.87	$3,056.35	$4,437.22
Victorville	$1,713.73	$3,056.35	$4,770.08
San Bernardino County	$1,083.46	$3,056.35	$4,139.81
TOTAL	$8,827.80	$20,546.71	$29,374.51

Attachment 2

CONGESTION MANAGEMENT PROGRAM COSTS 2007/2008

COST ALLOCATION

JURISDICTION	TN 20308005	TN 20308010-20308050	TOTAL
COLORADO RIVER SUBAREA			
Needles	$128.40	$44.60	$173.00
San Bernardino County	$52.56	$44.60	$97.16
MOUNTAINS SUBAREA			
Big Bear Lake	$138.33	$144.41	$282.74
San Bernardino County	$1,040.56	$144.41	$1,184.97
MORONGO BASIN SUBAREA			
Twentynine Palms	$618.38	$1,602.34	$2,220.72
Yucca Valley	$470.27	$1,602.34	$2,072.62
San Bernardino County	$572.47	$1,602.34	$2,174.82
NORTH DESERT SUBAREA			
Barstow	$529.62	$2,933.27	$3,462.90
San Bernardino County	$794.32	$2,933.27	$3,727.60
VICTOR VALLEY SUBAREA			
Adelanto	$623.13	$4,027.35	$4,650.48
Apple Valley	$1,549.86	$4,027.35	$5,577.21
Hesperia	$1,941.86	$4,027.35	$5,969.21
Victorville	$2,374.98	$4,027.35	$6,402.34
San Bernardino County	$1,551.78	$4,027.35	$5,579.14
TOTAL	$12,386.54	$31,188.35	$43,574.89

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Attachment 3

CONGESTION MANAGEMENT PROGRAM

Assembly Bills 471, 1791, and 3093, first implemented in 1990 by Proposition 111, require adoption and biennial updating of Congestion Management Programs (CMPs) for each county with an urbanized area of more than 50,000 population. In San Bernardino County, San Bernardino Associated Governments (SANBAG) was designated the Congestion Management Agency by the local governments, and is charged with developing and monitoring compliance with the program. Implementation of the program, and local compliance, are required to gain access to transportation funding through the Regional Transportation Improvement Program. The State controller is required to withhold local gas tax subventions from local jurisdictions which are not in conformance with the adopted CMP.

The CMP for San Bernardino County was developed by SANBAG through technical and policy committees with representation from all local jurisdictions, Caltrans, and the private sector. It was adopted by the Congestion Management Agency Board of Directors on November 4, 1992, and was updated in November 1993 and every odd-numbered year thereafter.

WHAT IS THE INTENT OF THE CMP?

The CMP is intended to strengthen the nexus between transportation and land use decisions, with consideration for air quality. It has resulted in more consistent analysis and a better understanding of regional or multi-jurisdictional transportation consequences of local actions.

HOW DOES IT ACCOMPLISH THIS?

The CMP requires definition of the regional multimodal transportation system, maintenance of level of service standards on regional roads, and implementation of measures to maximize the efficiency of the existing system. It also provides mechanisms to objectively identify and prioritize improvements to the regional system, and is the vehicle through which various state and federal transportation funds are accessed. The statutory CMP requirements are described below.

<u>REQUIRED CMP ELEMENTS</u>

1. **Establishment of Level of Service (LOS) Standards, as calculated by a uniform LOS methodology, for the system of highways and principal arterial roadways within the county.** Once designated, no roadway can be removed from the system. All new highways and principal arterials must be added to the system. The LOS standard must be LOS E or better, except on links or intersections which currently operate at LOS F. Deficiency plans must be completed and adopted for facilities which fail to meet the standard. Deficiency plans are described below.

2. **Standards for public transit service including frequency and routing, and for coordination among separate transit operators.**

3. **A trip reduction and travel demand element** that promotes carpools, vanpools, transit, bicycles, park-n-ride, jobs/housing balance, flextime, and parking management.

4. **A program to analyze the impacts of local land use decisions on the regional transportation system**, including an estimate of the costs to mitigate the identified impacts. This has been implemented through preparation of Traffic Impact Analyses. However, following the passage of Measure I 2010-2040, this requirement will be met in urban parts of the County through locally implemented development mitigation programs that are consistent with the SANBAG Development Mitigation Nexus Study.

5. **A capital improvements program (CIP) to maintain or improve the traffic level of service and transit performance standards, and mitigate the regional transportation impacts of further development.** The capital improvements program must conform to transportation-related vehicle emissions air quality mitigation measures. The actions identified within deficiency plans, traffic impact analyses, or other transportation master plans to mitigate the impacts of development and growth will serve as bases for the CIP.

MODELING REQUIREMENTS

SANBAG, with cooperation from SCAG, the cities, and the County, is required to develop a uniform data base on traffic impacts for use in transportation computer models or compatible analytical tools. The CMA must approve the consistency of local modeling efforts that are used to determine the impacts of development on the circulation system. Local modeling is to be compatible with CMP models, which in turn are to be consistent with regional models. The data base used in the County is to be consistent with the data base used by SCAG. The CMP model(s) for San Bernardino County are more locally detailed versions of the SCAG Regional model, and are maintained at SCAG's Inland Office.

MONITORING

SANBAG must monitor implementation of all elements of the CMP, and is required to make an annual determination of conformance with the CMP for each city and the County. Conformance criteria include:

1. Consistency with LOS and performance standards. Exceptions are segments or intersections for which deficiency plans for implementation of needed improvements have been adopted.

2. Adoption and implementation of a program to analyze the impacts of land use decisions by each local jurisdiction, including documentation of the costs associated with impact mitigation. Within the Valley and Victor Valley areas, their requirement is met by local implementation of development mitigation programs consistent with the SANBAG Development Mitigation Nexus Study. In non-urban areas, it is met by preparation of TIA Reports on qualifying projects.

In addition, traffic levels of service on the CMP roads are to be determined annually. Within San Bernardino County, the owner/operator of each facility has been responsible for monitoring the performance of the facility.

CONFORMANCE

If the Congestion Management Agency determines, following a public hearing, that a jurisdiction has not conformed to the requirements of the CMP, it will notify that city or the County in writing of the specific areas of nonconformance. If the city or County has not reached conformance within 90 days, the SANBAG Board is required to make a finding of nonconformance and submit the finding to the State Controller. The Controller then withholds apportionment of funds otherwise apportioned to the jurisdiction under Section 2105 of the Streets and Highways Code. If, within the 12-month period following receipt of the notice of nonconformance, the Controller is notified by the CMA that the local jurisdiction is again in conformance, the withheld monies will be provided to that jurisdiction. If the local jurisdiction continues to be out of conformance beyond the 12-month period, the apportionments withheld from that jurisdiction are to be returned to the CMA to be expended for capital projects of regional significance. Apportionments returned to the CMA cannot be expended for administration or planning purposes.

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Phone: (909) 884-8276 Fax: (909) 885-4407 Web: www.sanbag.ca.gov

TRANSPORTATION MEASURE I

■ San Bernardino County Transportation Commission ■ San Bernardino County Transportation Authority
■ San Bernardino County Congestion Management Agency ■ Service Authority for Freeway Emergencies

Minute Action

AGENDA ITEM: 10

Date: April 7, 2010

Subject: Termination of agreements on the Valley Boulevard/BNSF Grade Separation project in the City of Colton

Recommendation:* 1. Approve Termination for Convenience on Cooperative Agreement C08161 between SANBAG and the City of Colton for the preparation of Project Approval and Environmental Documents and design of the Valley Blvd./BNSF Grade Separation Project.

2. Approve Termination for Convenience on Contract C08135 between SANBAG and URS Corporation DBA, URS Corporation Americas for Project Approval and Environmental Documentation Services for the Valley Blvd./BNSF Grade Separation Project in the City of Colton.

Background: The Valley Blvd./BNSF Grade Separation Project was one of seven railroad grade separation projects approved in April, 2007 for a loan of Measure I 1990-2010 Valley Major Projects funds to fund project development of TCIF candidate railroad grade separation projects. The SANBAG Board entered into 2 agreements on June 4, 2008 for the Valley Blvd./BNSF Grade Separation Project in the City of Colton to initiate work for preliminary engineering and the environmental document phase of the project. Agreement C08161 was executed between SANBAG and the City of Colton whereby the City of Colton shared in funding the cost of the work. Another agreement, C08161, was executed with URS Corporation to provide the preliminary engineering services and environmental documents for the project.

*

Approved
Board of Directors

Date: _____

Moved: *Second:*

In Favor: *Opposed:* *Abstained:*

Witnessed: _____

Through the preliminary engineering effort, various conceptual layouts of the grade separation were developed. All the conceptual alternatives had a major impact to the access of the businesses that front Valley Boulevard. Given this, the City decided not to proceed with the project. At the City's request, in November 2009 the SANBAG Board approved the Development Mitigation Nexus Study substitution of Fogg Street/BNSF grade separation improvement project in place of the Valley Boulevard project.

As such, staff recommends the termination for convenience for both the cooperative agreement with the City of Colton and the preliminary design contract with the consultant. This action will end both contracts and close out the project.

Financial Impact: This item is consistent with the 2009/10 SANBAG Budget. TN 87310000

Reviewed By: This item was reviewed and unanimously recommend for approval by the Major Projects Committee on March 11, 2010. SANBAG Counsel has reviewed this item.

Responsible Staff: Garry Cohoe, Director of Freeway Construction

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TRANSPORTATION MEASURE I

■ San Bernardino County Transportation Commission ■ San Bernardino County Transportation Authority
■ San Bernardino County Congestion Management Agency ■ Service Authority for Freeway Emergencies

Minute Action

AGENDA ITEM: 11

Date: April 7, 2010

Subject: State Route 210 (SR-210) Landscaping for Segments 1-4

Recommendation:* 1. Approve Amendment No. 1 to Purchase Order No. P08207 with the City of Upland in the amount of $235,000 for irrigation water for SR-210 Landscaping Segments 1 and 2.

2. Approve Amendment No. 1 to Purchase Order No. P10043 with Cucamonga Valley Water District in the amount of $300,000 for irrigation water for SR-210 Landscaping Segments 3 and 4.

Background: Landscaping of the newly constructed SR-210 freeway was a required environmental mitigation measure and in January 2006 SANBAG began construction on landscaping improvements for SR-210 Segments 1 through 4 in the Cities of Upland and Rancho Cucamonga.

The landscape construction cooperative agreement with Caltrans requires SANBAG to maintain new plant material for a period of three years following completion of landscape construction before turning maintenance responsibility for the landscaping over to Caltrans. To reduce labor costs during plant establishment, SANBAG only required the landscape construction contractor to provide one year of plant establishment following completion of construction and contracted separately with a landscape maintenance firm to provide two years of extended plant establishment during which SANBAG is responsible for paying the costs of irrigation water.

*

Approved
Board of Directors

Date: _____

Moved: *Second:*

In Favor: *Opposed:* *Abstained:*

Witnessed: _____

BRD1004i-gc
Attachments: PO10UPLA_CI-02, PO10CVWD-02

On June 4, 2008, SANBAG Board approved purchase order P08207 with the City of Upland in the amount of $200,000 for irrigation water on Segments 1 and 2 extended plant establishment. On August 5, 2009, SANBAG Board approved purchase order P10043 with the Cucamonga Valley Water District in the amount of $120,000 for irrigation water on Segments 3 and 4 extended plant establishment. Water usage during the hot, dry summer months has been higher than expected and remaining balances on the approved purchase orders are not sufficient to provide irrigation water through completion of extended plant establishment for Segments 1, 2 and 3, which will continue into March 2011, and for Segment 4 into October 2011.

SANBAG's Construction Management consultant overseeing work on the extended plant establishment contracts has projected the water needs through the completion of plant establishment for Segments 1 through 4. Based on those projections, staff recommends approval of an amendment in the amount of $235,000 for purchase order P08207 with the City of Upland, and $300,000 for purchase order P10043 with the Cucamonga Valley Water District.

Financial Impact: This item is consistent with current Fiscal Year 2009/2010 budget with Measure I Valley Major Projects funds available under TN 82410000. The balance will be included in the 2010/2011 budget.

Reviewed By: This item was reviewed and unanimously recommended for approval by the Major Projects Committee on March 11, 2010.

Responsible Staff: Garry Cohoe, Director of Freeway Construction

BRD1004i-gc
Attachments: PO10UPLA_CI-02, PO10CVWD-02

San Bernardino Associated Governments

PURCHASE ORDER REQUEST

NOTE: Do not use a purchase order for construction projects, roadwork, purchase or lease of real property, and employment contracts.

Short Description of PO to be included in monthly procurement report.
(Required) Use up to a **maximum of 27 characters** to provide a short description. **SR-210 Landscape Irrigation**

VENDOR: **City of Upland** **Vendor ID** **UPLA CI**

ADDRESS: **460 N. Euclid Avenue, P.O. Box 460, Upland, CA 91786**

PHONE: **(909) 931-4100**

☐ **Process payment from this PO Request – invoice is attached.**

PO End Date (required): **December 31, 2010** **PO # (if released for RFP/RFQ):** **P08207**

Item Description	Order Qty	Task #	Cost Code	Amount
Payment of irrigation water costs to City of Upland for SR-210 Landscape Services **(Original 6/4/2008)**		8240	5530	$ 200,000.00
Payment of irrigation water costs to City of Upland for SR-210 Landscape Services **(Amendment #1 4/7/2010)**		82410000	5530/53120	$ 235,000.00
				$
				$
				$
				$
Shipping/Handling				$
			TOTAL	**$ 435,000.00**

Attach any special instructions that are to be noted on the purchase order.

Please answer the following questions regarding the selection process:

Was the County Pre-Approved Vendor List used? ☒ No ☐ Yes

Was an informal competitive bid process done? ☒ No ☐ Yes -- complete Informal Bid Process Form (Page 2).

Is this a sole source purchase order? ☐ No ☒ Yes - If so, why? Sole water provider

Requested By: Garry Cohoe	Date 4/7/2010
P.O. Manager's Signature	Date
Approved by Task Manager (Signature)	

Filename: PO08UPLA_CI-02.docx

San Bernardino Associated Governments

PURCHASE ORDER REQUEST

NOTE: Do not use a purchase order for construction projects, roadwork, purchase or lease of real property, and employment contracts.

Short Description of PO to be included in monthly procurement report. (Required) Use up to a **maximum of 27 characters** to provide a short description. **SR-210 Landscape Irrigation**

VENDOR: **Cucamonga Valley Water District** **Vendor ID** **CVWD1**

ADDRESS: **10440 Ashford Street, Rancho Cucamonga, CA 91730**

PHONE: **(909) 944-6000**

☐ **Process payment from this PO Request – invoice is attached.**

PO End Date (required): **October 31, 2011** **PO # (if released for RFP/RFQ):** **P10043**

Item Description	Order Qty	Task #	Cost Code	Amount
Payment of irrigation water costs to Cucamonga Valley Water District for SR-210, Segment 4 Landscape Services **(Original 8/5/2009)**		82410000	5530	$ 120,000.00
Payment of irrigation water costs to Cucamonga Valley Water District for SR-210, Segment 4 Landscape Services **(Amendment #1 4/7/2010)**		82410000	5530/53120	$ 300,000.00
				$
				$
				$
				$
Shipping/Handling				$
			TOTAL	**$ 420,000.00**

Attach any special instructions that are to be noted on the purchase order.

Please answer the following questions regarding the selection process:

Was the County Pre-Approved Vendor List used? ☒ No ☐ Yes

Was an informal competitive bid process done? ☒ No ☐ Yes -- complete Informal Bid Process Form (Page 2).

Is this a sole source purchase order? ☐ No ☒ Yes - If so, why? Sole water provider

Requested By: Garry Cohoe	Date 4/7/2010
P.O. Manager's Signature	Date
Approved by Task Manager (Signature)	

Filename: PO10CVWD-02.docx

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TRANSPORTATION MEASURE I

■ San Bernardino County Transportation Commission ■ San Bernardino County Transportation Authority
■ San Bernardino County Congestion Management Agency ■ Service Authority for Freeway Emergencies

Minute Action

AGENDA ITEM: 12

Date: April 7, 2010

Subject: San Bernardino Valley Coordinated Traffic Signal System Tiers 3 and 4

Recommendation:* 1. Ratify the Major Projects Committee's approval at the March 2010 Major Projects Committee meeting to release a Request for Qualifications (RFQ) for construction management services (Contract C10202) prior to the April 2010 Board of Directors meeting.

2. Approve the final Plans, Specifications and Estimates (PS&E) for the San Bernardino Valley Coordinated Traffic Signal System Tier 3 and 4 project that provides traffic signal coordination along regionally significant arterial corridors within San Bernardino Valley.

3. Authorize staff to advertise Contract No. C10198 and receive bids for construction of the San Bernardino Valley Coordinated Traffic Signal System Tier 3 and 4 project.

Background: In September 2000, the Board adopted the San Bernardino Valley Coordinated Traffic Signal System Plan which proposed to upgrade and coordinate nearly 1,200 traffic signals along regionally significant arterials, providing inter-jurisdictional traffic signal coordination throughout the San Bernardino Valley. The Plan established a four-tiered approach to bring signal interconnect improvements to the San Bernardino Valley based on the funding availability for

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Approved
Board of Directors

Date: _____

Moved: *Second:*

In Favor: *Opposed:* *Abstained:*

Witnessed: _____

BRD1004e-gc
Attachment: C10202 Attachment A

each tier. Tiers 1 and 2 of the program, which included the design and construction of hardware and communication upgrades at almost 700 traffic signal locations, were completed in September 2008. This project has brought significant traffic congestion reduction on the implemented corridors.

In a Special Board meeting on May 20, 2009, SANBAG awarded Contract No. 09-179 to Advantec Consulting Engineers for the design of Tiers 3 and 4, including hardware and communication upgrades to approximately 300 traffic signal locations throughout the San Bernardino Valley, including signals owned and maintained by Caltrans, the Cities of Chino, Chino Hills, Colton, Fontana, Highland, Loma Linda, Ontario, Rancho Cucamonga, Redlands, Rialto, San Bernardino, Upland, Yucaipa and the County of San Bernardino.

The Tier 3 and 4 project proposes to utilize a wireless communication network to coordinate up to 500 traffic signals along various major arterial corridors within the Valley. The project is now nearing final design and is scheduled to begin in construction in June 2010. It should be noted that the Tier 3 and 4 project is currently funded with Congestion Mitigation and Air Quality (CMAQ) funds and Prop 1B Traffic Light Synchronization Program (TLSP) funds. SANBAG entered into a Baseline Agreement with Caltrans and California Transportation Commission (CTC) that established the project scope, cost and schedule as well as the funding commitments. Per the Baseline Agreement, the project must be awarded and under construction by June 2010.

To meet the delivery schedule commitment, staff made a recommendation at the March 2010 Major Projects Committee meeting to authorize the release of an RFQ for construction management services (Contract C10202) prior to the April 2010 Board of Directors meeting. With the approval of the Major Projects Committee, staff released the RFQ on March 16, 2010. The subject RFQ seeks the services of a highly qualified consultant team to assist SANBAG by providing construction management services during construction of the Tier 3 and 4 Signal Coordination Project. The RFQ was made available on SANBAG's Contracting Opportunities webpage and notices were sent to companies on our vendor list with this specialty.

Staff is recommending approval of the San Bernardino Valley Coordinated Traffic Signal System Tier 3 and 4 project final PS&E package prepared by Advantec Consulting and authorization to advertise Contract No. C10198 and receive bids for construction of the project. Copies of the final PS&E package are available for review at the front desk of the SANBAG offices.

Financial Impact: The recommended actions have no immediate financial impact to SANBAG's 09/10 budget. However, release of the RFP and advertisement of the construction package are expected to result in award of two separate contracts before July 2010.

Reviewed By: This item was reviewed and unanimously recommended for approval by the Major Projects Committee on March 11, 2010.

Responsible Staff: Garry Cohoe, Director of Freeway Construction

ATTACHMENT "A"

Contract C10202

SCOPE OF SERVICES
CONSTRUCTION MANAGEMENT
San Bernardino Valley Coordinated Traffic Signal System Program
Tiers 3 and 4

INDEX

A. DESCRIPTION OF SERVICES

The San Bernardino Associated Governments (SANBAG) will utilize the services of CONSULTANT to support construction of signal interconnect for Tiers 3 and 4 of the San Bernardino Valley Coordinated Traffic Signal System Program (Project). The Project is funded with federal Congestion Mitigation and Air Quality (CMAQ) funds. The Project, in general, involves the installation of wireless and hardwire traffic signal interconnect systems, modification of traffic signals, and connecting traffic signals to existing fiber optic systems at approximately 340 signalized intersections. The overall benefit of the Project will be reduced fuel consumption, travel time, and delay and improved air quality in the Valley region of San Bernardino County. CONSULTANT shall provide qualified construction management and inspection personnel to perform a wide variety of construction management, inspection and contract administration duties as outlined in this Scope of Services for the Project. Caltrans and certain cities will provide their own inspectors.

Coordination between the CONSULTANT and SANBAG will be accomplished through the SANBAG Contract Manager. The CONSULTANT shall report to and receive direction from SANBAG through the Contract Manager, or his/her designees. The Contract Manager is responsible for oversight of all SANBAG construction activities and for directing the efforts of the total construction team. The Contract Manager will be the main contact and primary source of information between SANBAG, Caltrans, cities, outside agencies, supporting consultants and the public.

The SANBAG Contract Manager for this contract will be:

Edgar Perez
Project Manager

The construction components of the Project, in general, include the following:

- Wireless Ethernet signal interconnect installations.
- Wireless spread spectrum radio signal interconnect installations.
- Traffic Signal interconnect conduit and cable installations.
- Traffic Signal controller assembly installations and traffic signal controller unit installations.
- Telephone service installations.
- Fiber optic signal interconnect installations.
- Cellular modem installations
- GPS antenna and associated installations.

This project involves interfacing with 15 different local jurisdictions, including cities, county and Caltrans. Each jurisdiction has adopted its own traffic control equipment, which has been operated and maintained within each jurisdiction for a period of time. Table 1 provides a summary of the different traffic control equipment being in use in each jurisdiction.

Specific construction details of the Project are provided in the Project Plans and specifications, which will be made available upon shortlist notification.

Duration of construction is estimated at 130 working days.

Table 1

Existing Traffic Signal Equipment by Jurisdictions

	Cabinet Type	Controller Type	Firmware	System	New Master Controller	New Controller
CALTRANS	332	170, 170(E)	C-8,	CTNet	3	0
Chino	O/P	ASC/2/2S/2M/3	N/A	Aries	4	1
Chino Hills	P	ASC/2/2S/8000	N/A	Aries	1	2
Colton	P/332/337	170(E), 170ATC	BiTran 200SA BiTran 233	QuicNet	4	5
Fontana	P/R/332	ASC/2/2S/2M/3	N/A	Aries	2	1
Highland	332	170(E)	BiTran 233, BiTran 2033	QuicNet	4	1
Loma Linda	332/P	170E, ASC/2S	BiTran 233	QuicNet	0	0
Ontario	P	ASC/2/2S	N/A	Icons/Aries	0	3
Rancho Cucamonga	P/R/332	ASC/2/2M/2S/3	N/A,	Aries	4	21
Redlands	P/332	2070(ATC/L), ATCnx	SE-PAC	ACTRA	0	6
Rialto	P/R/332/ 333jp	170(ATC CF),	BiTran 750	QuicNet	5	29
San Bernardino City	332	170(E)	BiTran200SA	QuicNet	3	0
San Bernardino Co.	P/R	ASC/2/2S/3, EPAC M52/300/ATCnx Traconex 390,	N/A	Various	0	1
Upland	332	170(E), 2070	BiTran200SA/ BiTran 2033	QuicNet	5	35
Yucaipa	P/332	170/170(E)	BiTran 200/233	QuicNet	1	1

B. PERFORMANCE REQUIREMENTS

CONSULTANT shall furnish a Project Manager to coordinate CONSULTANT operations with SANBAG. The Project Manager shall be responsible for all matters related to CONSULTANT personnel and operations. It is recommended that, in addition to a Project Manager, a single point of contact shall be assigned to direct and coordinate all construction activities under this contract, plus a Systems Engineer shall be assigned to this project to provide construction management of hardware implementation interfacing with the local traffic control systems, hardware, firmware and software.

The number of CONSULTANT personnel assigned to the project will vary throughout the duration of the contract. CONSULTANT personnel will be assigned, in varying levels of responsibility, as needed by the CONSULTANT to meet the project schedule, project requirements, and construction activities. The duration of the assignments may vary from a minimum of one (1) week to the full term of the Project.

The Project Manager and/or Systems Engineer shall have experience with the design and implementation of traffic control equipment and with the radio, cellular, and hardwire (copper and fiber optics) communications equipment of this project. In particular, the experience should include communications interface between the different traffic control equipment (including controller hardware, firmware and central/field traffic signal management systems) shown in Table 1 and the radio, cellular, and hardwire communications equipment of this project.

Resumes of personnel must be submitted to SANBAG for review and approval prior to assignment to the Project. SANBAG and CONSULTANT will determine the quality and quantity of services provided by CONSULTANT personnel. Personnel selected for assignment by CONSULTANT shall be made available for personal interviews prior to acceptance by SANBAG. If, in the opinion of SANBAG, an individual lacks adequate experience, the individual may be rejected, or may be accepted on a trial basis until such time the individual's ability to perform the required services has been demonstrated. If, at any time, the level of performance of CONSULTANT personnel is below SANBAG expectations, SANBAG may release him/her by written notice and may request another qualified person be assigned.

If CONSULTANT personnel are on leave of absence, the Project Manager shall provide approved, equally qualified replacement personnel until the assigned personnel returns to the Project.

The typical workday includes all hours worked by the construction Contractor. If necessary, overtime for CONSULTANT personnel may be required. The construction Contractor's operations may be restricted to specific hours during the week, which shall become the normal workday for CONSULTANT personnel. The Project Manager, with concurrence from SANBAG, shall have the authority to increase, decrease, or eliminate CONSULTANT personnel work hours dependent on the schedule and requirements of the construction Contractor. All overtime required by CONSULTANT personnel shall be approved and authorized by SANBAG prior to each occurrence.

CONSULTANT personnel shall be knowledgeable of and comply with all applicable local, state, and federal regulations. CONSULTANT personnel shall cooperate and consult with SANBAG, State, and City officials during the course of the Project. CONSULTANT personnel shall perform duties as may be required to assure that construction is being performed in accordance with the Project plans and specifications. CONSULTANT personnel shall keep accurate and timely records and document all work performed by the Contractor and CONSULTANT.

CONSULTANT personnel shall assist in monitoring compliance with:

1. Labor standards and related wage determination decisions of the Secretary of Labor.

2. Safety and accident prevention provisions for the Project. However, this is not intended to make CONSULTANT responsible for construction contractor's safety programs.

3. Equal opportunity provisions for the Project.

All services required hereunder shall be performed in accordance with California Department of Transportation guidelines, regulations, policies, procedures, manuals, and standards.

C. DUTIES AND RESPONSIBILITIES

It is noted and acknowledged that Tiers 3 and 4 Project will be executed under one construction contract. Where the terms "Project" and "Contractor" are used herein, they shall apply to all phases and Contractors.

1. Pre-construction Meetings

a. CONSULTANT shall assist SANBAG in conducting one or more, pre-construction meetings with all involved parties on the Project. Parties may include, but are not limited to, the Contractor, Caltrans, local agency, the design engineer, cities, and utility companies.

2. Project Administration

a. CONSULTANT shall provide one project manager to effectively administer the project construction contractors using proper procedures in accordance with Caltrans Construction Manual.

b. CONSULTANT shall conduct regular project monthly (or as needed) coordination meetings with the Contractors, SANBAG, Caltrans, County, cities, and design engineer, and/or as appropriate. CONSULTANT shall write the minutes of these meetings and obtain status and track all action items with the assignees.

c. CONSULTANT shall prepare Contractor progress payments and maintain payment records and supporting documentation. All progress payments shall be reviewed by SANBAG for approval.

d. CONSULTANT shall establish and maintain Project records. Project record keeping shall include, but are not limited to, correspondence, memoranda, contract documents, change orders, claims, SANBAG and engineer directives, meeting minutes, shop drawings, supplementary drawings, and requests for payment. CONSULTANT shall maintain a record of the names, addresses, and telephone and fax numbers of the Contractors, subcontractors, and principal material suppliers.

e. CONSULTANT shall establish and maintain a filing system for the project using the Caltrans Construction Manual as a guideline.

f. CONSULTANT shall monitor Contractors' construction schedules on an ongoing basis and alert SANBAG to conditions that may lead to delays in completion of the

Project.

g. CONSULTANT shall prepare and submit a monthly Activity Summary Report. The activity report shall include construction activity, accomplishments, and status of project budget and schedule.

h. CONSULTANT shall review and enforce compliance with environmental requirements.

i. CONSULTANT shall participate in meetings with the Contractors, SANBAG, Caltrans, County and cities as required.

j. CONSULTANT shall review the Project plans and special provisions for project familiarity.

k. CONSULTANT shall review Contractors' certified payroll records for labor compliance.

3. Construction Coordination

a. CONSULTANT shall provide one qualified Project Manager, one qualified Systems Engineer and qualified Inspectors, as needed, to manage the Project.

b. CONSULTANT shall act as a prime point of contact between Contractor, SANBAG, and utility companies. CONSULTANT may, when requested by SANBAG, act as point of contact between Caltrans, design engineers, cities, and the public.

c. CONSULTANT shall maintain regular contact with SANBAG's Contract Manager by way of daily briefings in-person and/or by telephone communications.

a. CONSULTANT shall coordinate utility services with utility companies and their designees.

b. CONSULTANT shall review all equipment specifications and/or cut-sheets provided by Contractor and evaluate if such equipment meets the requirements of this project, as specified in the Bid Specifications and electronic industry standards for such use, and recommend approval or rejection to SANBAG. CONSULTANT shall evaluate all equipment interface issues relating to the ability of the proposed equipment to successfully work with and communicate properly with the various types of traffic signal controllers, modems, switches, and traffic signal systems being in used by different local jurisdictions.

f. CONSULTANT shall analyze and interpret Project plans and special provisions for possible errors and deficiencies prior to construction of any specific element and report such findings. Should SANBAG determine that changes are necessary, CONSULTANT shall assist in implementation and processing of change orders in accordance with contract documents. However, CONSULTANT shall not be responsible for the errors or deficiencies of others.

g. CONSULTANT shall provide all required monitoring, coordination, and tracking of construction progress to help ensure the Project proceeds on schedule and according

to the order of work in the plans and special provisions. CONSULTANT shall recommend to SANBAG if contractor should expedite work, as required, to maintain schedule.

h. CONSULTANT shall coordinate review of material submittals and Requests for Information (RFI) with the Contract Manager and design engineer. CONSULTANT shall log and track all submittals and requests.

i. CONSULTANT shall provide a qualified Storm Water Pollution Prevention Plans (SWPPP) coordinator who shall review contractor prepared SWPPP and coordinate approval with SANBAG and Caltrans or the City. CONSULTANT shall cooperate with monitoring agency inspections and field reviews.

j. CONSULTANT shall coordinate the implementation of SANBAG approved changes with the Contract Manager and the design engineer.

k. CONSULTANT shall coordinate all project construction activities with other on-going projects within and adjacent to the Project.

4. Construction Inspection

a. CONSULTANT shall coordinate all required inspections necessary for the Project. CONSULTANT shall communicate with the appropriate Caltrans, County, City, and local agency personnel as required throughout the Project. CONSULTANT shall keep SANBAG informed by daily briefings and/or telephone or e-mail communications regarding all directives, recommendations, notices, etc. received from agencies other than SANBAG.

b. CONSULTANT shall perform daily on-site observations of the progress and quality of construction to determine if the work being performed is in general conformance with the contract documents applicable laws, codes, and ordinances.

c. CONSULTANT shall establish and maintain friendly and cooperative relations with those contacted in the course of the work and to communicate effectively, both orally and in writing.

d. CONSULTANT shall exercise reasonable care and diligence to discover and promptly report to SANBAG any and all defects or deficiencies in the materials or workmanship used in the Project.

e. CONSULTANT personnel assigned to the Project shall be thoroughly familiar with Caltrans Standard Specifications, Caltrans Standard Plans, and part 6-Temporary Traffic Control of the California Manual on Uniform Traffic Control Devices (CAMUTCD). CONSULTANT personnel shall have the ability to read and interpret construction plans and specifications. CONSULTANT personnel shall also have knowledge of State of California Construction Safety Orders (CalOSHA) and traffic control practices as specified in the Work Area Traffic Control Handbook (WATCH).

f. Assignments to be performed by CONSULTANT personnel shall include, but are not limited to the following:

1. Traffic signal and electrical systems inspection, wireless traffic signal interconnection system inspection, central traffic signal software configuration, trenching inspection, quantity calculations, fiber optic systems inspection, quality control, along with other duties that may be required to determine that construction of the Project is being performed in accordance with the contract documents.

2. CONSULTANT shall observe the Contractor's site evaluation of the radio antennae and other equipment location on site, and approve Contractor's suggested location of such equipment prior to construction at each intersection. The location of such equipment on the Design Plans are preliminary locations based on the topology review only, and may be altered on site to achieve the most optimum location. Such approval shall be provided on-site upon Contractor's determination of the optimum location of such equipment using a Spectrometer, or other specialized equipment for this purpose. CONSULTANT shall also direct Contractor to tests various alternative locations on-site to determine the most optimum location

3. Maintaining awareness of safety and health requirements. Monitoring Contractors' compliance with applicable regulations and construction contract provisions for the protection of the public and Project personnel.

4. Ensuring that the Contractor maintain proper traffic control during construction, including obtaining necessary permits from each local jurisdiction, properly protecting the safety and operations of the construction personnel as well as other road and pedestrian users.

5. Preparing complete and accurate daily reports, calculations, project records, payment quantity documents, reports, and correspondence related to Project activities.

6. Assisting the contractor in the preparation of as-built plans required by the receiving agency.

7. Providing inspections for environmental compliance.

8. Other duties as may be required or reasonably requested.

5. Project Support

a. Public Relations

CONSULTANT shall cooperate with SANBAG in the dissemination of appropriate Project information. Should CONSULTANT personnel receive complaints from the public or other entities, he/she shall promptly notify SANBAG. CONSULTANT shall maintain a log of all complaints and inquiries. Where appropriate, CONSULTANT shall direct the Contractor to address complaints in a timely manner.

b. Permits

CONSULTANT shall review the Project for permit compliance and coordinate with SANBAG, the design engineer, affected jurisdictions and other SANBAG consultants to help ensure that necessary permits are obtained. CONSULTANT shall assist SANBAG in the coordination, timely processing and verification of approval for all permits. CONSULTANT shall maintain permits and permit documentation on site.

6. Cost and Schedule

a. CONSULTANT shall monitor and track the following:

1. Contract pay item quantities and payments
2. Contract change orders
3. Supplemental work items
4. Agency furnished materials
5. Contingency balance
6. Project budget

b. CONSULTANT shall review and monitor Contractor's schedule and inform SANBAG of any significant changes or deviations in the schedule.

c. CONSULTANT shall provide and maintain a Project staffing plan of field personnel. In cooperation with SANBAG, the staffing plan shall be periodically updated to reflect Project progress and needs.

7. Contract Change Orders and Claims

a. CONSULTANT shall receive and evaluate requests for changes and/or substitutions by the Contractor. Contract Change Orders submitted to SANBAG shall be accompanied by CONSULTANT recommendations. Where applicable, CONSULTANT shall convey proposed changes to design engineer and/or other project consultants. If the requested changes are accepted, CONSULTANT shall negotiate and prepare appropriate Contract Change Orders.

b. CONSULTANT shall attempt to avoid all unnecessary Contract Change Orders. When a Contract Change Order is necessary, CONSULTANT shall consult with SANBAG prior to its preparation. Unless directed otherwise by SANBAG, the preferred method of payment for Contract Change Orders should be as follows:

1. Agreed Price

2. Adjustment in compensation to a bid item

3. Time and materials or Force Account

c. CONSULTANT shall attempt to identify all potential claims, track and monitor unresolved claims, and implement claims avoidance processes.

d. CONSULTANT shall assist SANBAG, as requested, in the identification, resolution, and final disposition of claims filed by the Contractor or third parties against SANBAG or the Project.

8. Safety

In addition to the requirements specified elsewhere in this contract, the following shall also apply:

a. CONSULTANT shall implement and conduct a comprehensive safety program including regular tail-gate safety meetings for CONSULTANT personnel. CONSULTANT shall provide monthly CONSULTANT status of safety reports.

b. CONSULTANT shall comply with State of California Construction Safety Orders and provisions of the Caltrans Construction Manual.

c. CONSULTANT shall provide safety training for all CONSULTANT field personnel.

d. CONSULTANT shall provide all safety equipment for CONSULTANT personnel.

9. Project Close Out

a. CONSULTANT shall prepare a list of items to be completed and/or corrected by the Contractor for final completion of the Project.

b. CONSULTANT shall oversee the consolidation of all as-built information collected during the course of work on the project for the final preparation and formal submittal to SANBAG, including SWPPP provisions as applicable.

c. CONSULTANT shall review and certify completeness of as-built drawings to the extent of CONSULTANT's knowledge.

d. CONSULTANT shall have contractor demonstrate to design engineer and SANBAG that all new communication systems work as designed.

e. CONSULTANT shall conduct a final walk-through with SANBAG, Caltrans, County, Cities, Contractors, and design engineer.

f. CONSULTANT shall prepare final construction reports including the Project Completion Report.

g. CONSULTANT shall prepare and deliver to SANBAG all project files.

h. CONSULTANT shall assist SANBAG and Contractor in obtaining final release of all project permits.

D. DELIVERABLES

1. Inspector daily reports, extra work diaries, and Engineer's daily diaries.

2. Monthly Project Activity Summary Reports.

3. Monthly Contractor progress payments, back-up documentation, and Contractor payment

records.

4. Contractor final payment documents, delivered to SANBAG no later than ten (10) working days after acceptance by SANBAG of the completed construction projects.

5. Project Completion Report.

6. All project files, project reports, project photos, correspondence, memoranda, shop drawings, project logs, change order data, claims and claim reports, and Contractor payment records.

E. EQUIPMENT AND MATERIALS TO BE PROVIDED BY CONSULTANT

1. CONSULTANT shall provide all necessary equipment including software, materials, supplies, miscellaneous tools, and safety equipment required for its personnel to perform the services accurately, efficiently, and safely. Only those items listed in Attachment B, CONSULTANT Cost Proposal, shall be reimbursed by SANBAG.

2. CONSULTANT personnel shall be provided with a mobile radio, cellular phone, or other means to help assure full-time, 24-hour, communication. If a radio system is to be used, CONSULTANT shall provide a base station at the SANBAG provided office (see Item F-3 below).

3. CONSULTANT personnel shall be provided with all applicable project plans, specifications, and appropriate standards (see item G below).

F. MATERIALS TO BE FURNISHED BY SANBAG

1. SANBAG will provide copies of all Project construction documents including plans, special provisions, reports, designer prepared resident engineer files, and contracts.

2. SANBAG will provide copies of all previously secured permits and Project authorizations.

3. SANBAG will provide office space, telephone, desk, chair, file cabinet, fax and copy machines.

G. STANDARDS

All construction inspection and contract administration shall be in accordance with the Project bid documents, special provisions, plans, and current Caltrans manuals including:

1. Construction Manual and its revisions.

2. Construction Records and Procedures Manual.

3. Quality Assurance Program.

4. California Manual on Uniform Traffic Control Devices (FHWA's MUTCD 2003 Revision 1, as amended for use in California).

5. Caltrans Standard Specifications and Standard Plans.

6. NEMA and other applicable traffic control equipment standards

H. LIMITATIONS TO AUTHORITY

CONSULTANT, when acting on behalf of SANBAG, shall not exceed the authority of SANBAG's design engineer. Notwithstanding any other provision in this Scope of Services and the Contract, CONSULTANT shall NOT:

1. Authorize deviations from the contract documents.

2. Approve substitute materials or equipment except as authorized in writing by SANBAG.

3. Conduct or participate in tests or third party inspections except as authorized in writing by SANBAG.

4. Assume any of the responsibilities of the Contractors, Contractors' Superintendent, or subcontractors.

5. Exercise control over or be responsible for construction means, methods, techniques, sequences, procedures, safety programs and/or safety precautions.

6. Communicate directly with subcontractors or material suppliers without the prior consent of the Contractor.

7. Verbally authorize or approve change orders or extra work for the Project.

8. Offer or receive incentives, inducements, or other forms of remuneration to or from the Contractor to perform services or work outside the terms of any executed contracts for this Project.

I. THIRD PARTY RELATIONSHIPS

This Contract is intended to provide unique services for specific projects that are a portion of the San Bernardino Valley Coordinated Trafftc Signal System Program within San Bernardino County. In the development of the Project, SANBAG has worked closely with various professional consultants, city jurisdictions, and others in the preparation of the construction documents and other Project related materials. SANBAG, however, is solely responsible for and will be the sole point of contact for all contractual matters related to this Project. CONSULTANT shall take direction **only** from SANBAG and shall regularly inform **only** SANBAG of Project progress, outstanding issues, and all Project related matters.

During the course of the Project, CONSULTANT may find occasion to meet with Caltrans or City or County representatives, the design engineer, or other third parties who have assisted with the Project. These entities may, from time to time, offer suggestions and/or recommendations regarding the Project or elements of the Project. While SANBAG enjoys a close relationship with and has considerable confidence in the capabilities of these other parties, CONSULTANT shall not act on any suggestions, solicited or unsolicited, without obtaining specific direction from SANBAG. Unless specifically directed, all oral and written communication shall be directed only to SANBAG. Distribution of Project related communication and information will be at the discretion of SANBAG.

J. PERSONNEL QUALIFICATIONS AND RESPONSIBILITIES

The quantity and qualifications of field personnel to be assigned will be determined by the scope of the Project and the degree of difficulty of required tasks to be performed. All personnel and personnel assignments shall be subject to approval by SANBAG. While some areas of responsibility may overlap, as a guideline, CONSULTANT personnel assigned to the project shall have the following minimum qualifications:

1. Project Manager

Minimum qualifications shall be as follows:

a. Project management experience on construction of similar projects.

b. Ability to use typical computer programs for word processing and spreadsheets.

c. Reasonably accessible to SANBAG at all times during normal working hours.

d. A thorough understanding of Caltrans construction contract administration procedures.

e. A thorough understanding of Caltrans construction practices and procedures.

f. Knowledge of all local regulatory requirements pertaining to the Storm Water Pollution Prevention Plan (SWPPP) and the National Pollutant Discharge Elimination System (NPDES) as they relate to signal construction projects.

The Project Manager will assume the following functional responsibilities:

a. Review, monitor, train, and provide general direction for CONSULTANT engineering & inspection personnel.

b. Assign personnel to projects on an as-needed basis.

c. Administer personal leave.

d. Prepare monthly reports for delivery to SANBAG.

e. Assign field personnel to specific project tasks.

f. Monitor and track Contractor progress.

g. Prepare daily, weekly and monthly reports as required.

h. Coordinate efforts of SANBAG construction support consultants.

i. Coordinate utility service requirements with appropriate agencies.

j. Act as prime field contact between SANBAG and various project Contractors in a capacity similar to that of a Resident Engineer.

2. Systems Engineer

Minimum qualifications shall be as follows:

a. Eight (8) years of experience as related to traffic control equipment and communications design and implementation projects, ***or*** a four-year degree in electrical or systems engineering and a combination of at least four years of similar traffic control equipment experience.

b. Knowledge of all NEMA and related equipment specifications as they relate to traffic signal communications projects.

c. Ability to address any equipment interface issues and solving these type of equipment operational problems.

The System Engineer will assume the following functional responsibilities:

a. Assist in inspections to assure compliance with contract plans, specifications, and special provisions on all equipment implementation of this project.

b. Assist in the evaluation of equipment specifications and/or cut-sheets to ensure compliance.

c. Assist in determining the proper firmware, software or data implementation to ensure successful operations of the radio, cellular and hardwire communications with the traffic signal control equipment and systems

d. Assist in determining the optimum location of radio antennae in the field as requested by the Field Inspectors.

3. Lead Field Inspector

Minimum qualifications shall be as follows:

d. Eight (8) years of construction inspection experience as related to Caltrans or signal interconnect projects, ***or*** a four-year degree in civil or electrical engineering and a combination of at least four years of similar construction inspection.

e. Knowledge of all local regulatory requirements pertaining to Storm Water Pollution Prevention Plan (SWPPP) as they relate to signal construction projects.

f. Ability to work independently. Ability to perform duties in the construction office and effectively make decisions concerning construction work in progress and solving field problems.

g. Ability to direct the efforts of subordinate inspectors.

h. Understanding of Caltrans field and construction office procedures.

i. Ability to use a calculator and typical computer programs for word processing and spreadsheets.

The Lead Field Inspector will assume the following functional responsibilities:

a. Assist in inspections to assure compliance with contract plans, specifications, and special provisions on all phases of project.

e. Observe Contractor's conduct of field tests to determine the optimum locations of radio antennae and other communications equipment on site, and approve the adoption of optimum locations, which may differ from the location indicated on the Design Plans. Instruct Contractor to make necessary changes of cabling routes on site as necessary.

f. Assist in the preparation of contract change orders, contract estimates, progress pay estimates, and other documents or reports required for the Project.

g. Coordinate field testing and sampling of materials to monitor compliance with Project specifications and Caltrans Quality Assurance Program.

h. Maintain accurate and timely project records. Perform quantity calculations for progress pay estimates.

i. Provide input for the redesign of facilities to fit existing field conditions.

j. Monitor and track Contractor progress. Prepare daily, weekly, and monthly reports as required.

3. Field Inspector

Minimum qualifications shall be as follows:

a. Two to three year's construction inspection experience as related to signal interconnect projects.

b. Knowledge of construction practices, physical characteristics and properties of signal interconnect requirements. Knowledge of signal construction materials, and approved methods and equipment used in making physical tests of signal interconnect materials.

c. Ability to work independently. Ability to make minor decisions concerning construction work in progress and to solve field and office problems.

d. Understanding of Caltrans construction methods and practices.

e. Ability to use a calculator and typical computer programs for word processing and spreadsheets.

The Field Inspector will assume the following functional responsibilities:

a. Assist in inspections to assure compliance with contract plans, specifications, and special provisions on all phases of construction.

b. Assist in preparation of contract change orders, contract estimates, progress pay estimates, and other documents or reports required for the Project.

c. Coordinate field testing and sampling of materials to monitor compliance with Project specifications and Caltrans Quality Assurance Program.

d. Perform quantity calculations for progress pay estimates and maintain Project records.

e. Perform labor compliance interviews of the Contractors' personnel.

4. Office Engineer

Minimum Qualifications shall be as follows:

a. Construction inspection/office engineering experiences on similar traffic signal interconnect projects.

b. Knowledge of Caltrans Local Assistance Construction forms used to administer construction projects.

c. Knowledge of construction records and accounting procedures.

d. Knowledge of laws and regulations governing the payment of prevailing wages.

The Office Engineer will assume the following functional responsibilities:

a. Process monthly progress pay estimates, monthly status reports, extra work reports, and weekly statements of working days.

b. Prepare and process contract change orders.

c. Monitor construction budget and schedule.

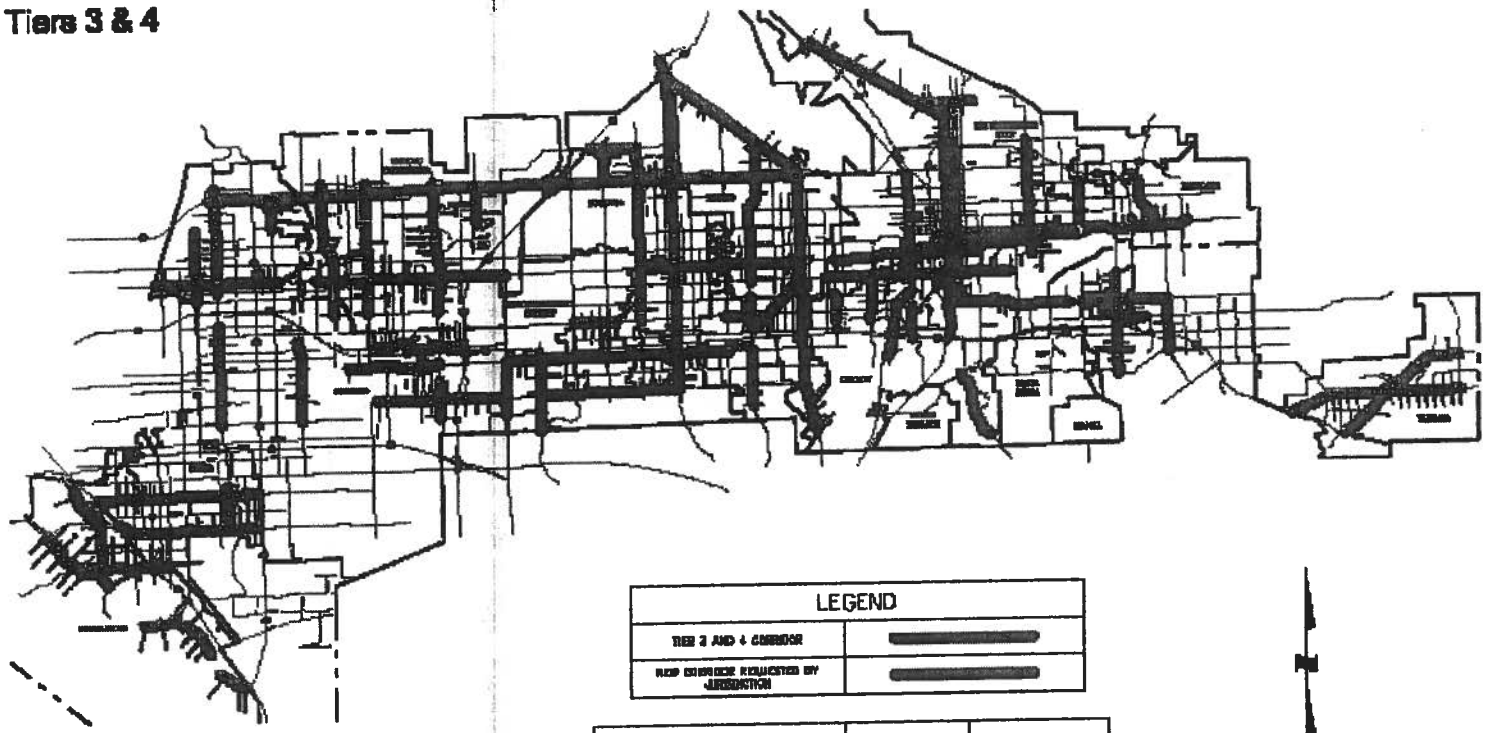
d. Prepare, maintain, and/or file project documents including labor and equipment records, correspondence, memoranda, meeting minutes, claims, personnel records, labor compliance reports, and daily, weekly, and monthly reports.

e. Reasonably accessible to SANBAG at all times including weekends and holidays in the event of an audit or other mandated review.

f. Perform routine calculations and checking of quantities.

g. Coordinate all office activities and functions with SANBAG representatives.

San Bernardino Valley
Coordinated Signal System Program
Tiers 3 & 4



LEGEND	
TIER 3 AND 4 CORRIDOR	
ROW EXPANSION REQUESTED BY JURISDICTION	

DESCRIPTION	DO NOT NEED WIRELESS COMMUNICATION	NEED WIRELESS COMMUNICATION
ORIGINAL TIER 3 AND 4 INTERSECTIONS	⑪	✱
NEW INTERSECTIONS ADDED WITHIN TIER 3 AND 4 CORRIDORS	⑧	✱
INTERSECTIONS REMOVED WITHIN TIER 3 AND 4 CORRIDORS	⑨	✱
INTERSECTIONS ADDED DUE TO LOGICAL EXTENSION OF TIER 3 AND 4 CORRIDORS	●	✱
ADDITIONAL EXPANSION REQUESTED BY JURISDICTION	●	✱
CALTRANS TIER 3 AND 4 INTERSECTIONS	⑫	✱
NEW HARDWIRE INTERCONNECT	△	

NOT TO SCALE

Governments
SANBAG
Working Together